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THE

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ORIGINAL ARTICLES.

Sexual Perversion, Satyriasis and Nymphomania.[1]

By G. FRANK LYDSTON, M. D., Chicago.

Gentlemen: The subject of sexual perversion (*Contrare Sexualempfindung*), although a disagreeable one for discussion, is one well worthy the attention of the scientific physician, and is of great importance in its social, medical and legal relations.[2]

The subject has been until a recent date studied solely from the standpoint of the moralist, and from the indisposition of the scientific physician to study the subject, the unfortunate class of individuals who are characterized by perverted sexuality have been viewed in the light of their moral responsibility rather than as the victims of a physical and incidentally of a mental defect. It is certainly much less humiliating to us as atoms of the social fabric to be able to attribute the degradation of these poor unfortunates to a physical cause, than to a willful viciousness over which they have, or ought to have, volitional control. Even to the moralist there should be much satisfaction in the thought that a large class of sexual perverts are physically abnormal rather than morally leprous. It is often difficult to draw the line of demarcation between physical and moral perversion. Indeed, the one is so often dependent upon the other that it is doubtful whether it were wise to attempt the distinction in many instances. But this does not affect the cogency of the argument that the sexual pervert is generally a physical aberration—a *lusus naturæ*.

Krafft-Ebing[3] expresses himself upon this point as follows: "In former years I considered *contrare Sexualempfindung* as a result of neuro-psychical degeneration, and I believe this view is warranted by more recent investigations. As we study into the abnormal and diseased conditions from which this malady results, the ideas of horror and criminality connected with it disappear, and there arises in our minds the sense of duty to investigate what at first sight seems so repulsive, and to distinguish, it may be, between a perversion of natural instincts which is the result of disease, and the criminal offenses of a perverted mind against the laws of morality and social decency. By so doing the investigations of science will become the means of rescuing the honor and re-establishing the social position (sic) of many an unfortunate whom unthinking prejudice and ignorance would class among depraved criminals. It would not be the first time that science has rendered a service to justice and to society by teaching that what seem to be immoral conditions and actions are but the results of disease."

There is in every community of any size a colony of male sexual perverts; they are usually known to each other, and are likely to congregate together. At times they operate in accordance with some definite and concerted plan in quest of subjects wherewith to gratify their abnormal sexual impulses. Often they are characterized by effeminacy of voice, dress and manner. In a general way, their physique is apt to be inferior—a defective physical make-up being quite general among them, although exceptions to this rule are numerous.

Sexual perversion is more frequent in the male; women usually fall into perverted sexual habits for the purpose of pandering to the depraved tastes of their patrons rather than from instinctive impulses. Exceptions to this rule are occasionally seen. For example, I know of an instance of a woman of perfect physique, who is not a professional prostitute, but moves in good society, who has a fondness for women, being never attracted to men for the purpose of ordinary sexual indulgence, but for perverted methods. The physician rarely has his attention called to these things, and when evidence of their existence is placed before him, he is apt to receive it with skepticism. He regards the subject as something verging on Munchausenism, or, if the matter seem at all credible, he sets it aside as something unholy with which he is not or should not be concerned. It is indeed not to be wondered at that the doctor, who sees so much to disgust him with the human animal, should be reluctant to add to his store of contempt. The man about town is very often *au fait* in these matters, and can give very valuable information. Indeed, witnesses enough can be found to convince the most skeptical.

Sexual perversion may be best defined in a general way as the possession of impulses to sexual gratification in an abnormal manner, with a partial or a complete apathy toward the normal method.

The affection presents itself in several forms, which may be tabulated as follows:

I. Congenital and perhaps hereditary sexual perversion.	*a.* Sexual perversion without defect of structure of sexual organs.
	b. Sexual perversion with defect of genital structure, *e. g.*, hermaphroditism.
	c. Sexual perversion with obvious defect of cerebral development, *e. g.*, idiocy.
II. Acquired sexual perversion.	*a.* Sexual perversion from pregnancy, the meno-pause, ovarian disease, hysteria, etc.
	b. Sexual perversion from acquired cerebral disease, with or without recognized insanity.
	c. Sexual perversion (?) from vice.
	d. Sexual perversion from over stimulation of the nerves of sexual sensibility and the receptive sexual centers, incidental to sexual excesses and masturbation.

As regards the clinical manifestations of the disease sexual perverts may be classified as: (*a*) Those having a predilection (affinity) for their own sex; (*b*) those having a predilection for abnormal methods of gratification with the opposite sex; (*c*) those affected with bestiality. Instances of all these different varieties have been observed.

The Precise Causes of sexual perversion are obscure. The explanation of the phenomenon is in a general

[1] Phila. Med. & Surg. Rep., Sept. 7, 1889.

[2] In a recent article, Dr. J. G. Kiernan, of Chicago, in discussing the hypothetical dependence of the Whitechapel murders upon sexual perversion, says: "The present subject may seem to trench on the 'prurient,' which in medicine does not exist, since 'science, like fire, purifies everything,' and what Macaulay calls 'the mightiest of human instincts' is too intimately related to the physical basis of human weal and woe for any physician prudishly to ignore any of its phases."

[3] Journ. Psychiatry and Neurology, Vol. IX, No. 4, p. 505.

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way much more definite. *Just as we may have variations of physical form, and of mental attributes, in general, so we may have variations and perversions of that intangible entity: sexual affinity.* In some cases, perhaps, sexual differentiation has been imperfect, and there is a reversion of type; as Kiernan remarks:[1] "The original bi-sexuality of the ancestors of the race, shown in the rudimentary female organs of the male, could not fail to occasion functional, if not organic, reversions when mental or physical manifestations were interfered with by disease or congenital defect. The inhibitions on excessive action to accomplish a given purpose, which the race has acquired through centuries of evolution, being removed, the animal in man springs to the surface. Removal of these inhibitions produces, among other results, sexual perversions."

Reasoning back to cell life we see many variations of sexual affinity and the function of reproduction, between the primal segmentation of the cell—the lowest type of procreative action—and that complete and perfect differentiation of the sexes which requires a definite act of sexual congress as a manifestation of the acme of sexual affinity, and for the purpose of reproduction. *The variations in the methods of sexual gratification—or to attribute it to instinct, of perpetuating the species—which are presented to the students of natural history, are numerous and striking.* It is not my intention, however, to give this matter more than passing notice. The method of sexual gratification—*i. e.*, procreation—of fishes, is a curious phenomenon. It is difficult to appreciate the sexual gratification involved in the deposition of the milt of the male fish upon the spawn of the female, yet that the so-called instinctive act of the male is unattended by gratification is improbable. Indeed, it is an argument as applicable to the lower animals as to man, that, were the act of procreation divested of its pleasurable features, the species would speedily become extinct; for the act of procreation *per se* is possessed of no features of attractiveness, but of many that are repulsive and in themselves productive of discomfort.

It is puzzling to the healthy man and woman, to understand how the practices of the sexual pervert can afford gratification. If considered in the light of reversion of type, however, the subject is much less perplexing. That mal-development, or arrested development, of the sexual organs should be associated with sexual perversion is not at all surprising; and the more nearly the individual approximates the type of fetal development which exists prior to the commencement of sexual differentiation, the more marked is the aberrance of sexuality.

There is one element in the study of sexual perversion that deserves especial attention. It is probable that few bodily attributes are more readily transmitted to posterity than peculiarities of sexual physiology. The offspring of the abnormally carnal individual is likely to be possessed of the same inordinate sexual appetite that characterizes the parent. The child of vice has within it, in many instances, the germ of vicious impulse, and no purifying influence can save it from following its own inherent inclinations. Men and women who seek, from mere satiety, variations of the normal method of sexual gratification, stamp their nervous systems with a malign influence which in the next generation may present itself as true sexual perversion. Acquired sexual perversion in one generation may be a true constitutional and irradicable vice in the next, and this independently of gross physical abberations. Carelessness on the part of parents is responsible for some cases of acquired sexual perversion. Boys who are allowed to associate intimately, are apt to turn their inventive genius to account by inventing novel means of sexual stimulation, with the result of ever after diminishing the natural sexual appetite. Any powerful impression made upon the sexual system at or near puberty, when the sexual apparatus is just maturing and very active, although as yet weak and impressionable, is apt to leave an imprint in the form of sexual peculiarities that will haunt the patient throughout his after life. Sexual congress at an early period, often leaves its impression in a similar manner. Many an individual has had reason to regret the indulgences of his youth because of its moral effect upon his after life. The impression made upon him in the height of his youthful sensibility is never eradicated, but remains in his memory as his ideal of sexual matters; for—if you will pardon the metaphor—there is a physical as well as an intellectual memory. As he grows older and less impressionable, he seeks vainly for an experience similar to that of his youth, and so joins the ranks of the sexual monomaniacs, who vainly chase the Will-o'-the-wisp: sexual gratification, all their lives. Variations of circumstance may determine sexual perversion rather than abnormally powerful desire. Let the physician who has the confidence of his patients inquire into this matter, and he will be surprised at the result. Only a short time since, one of my patients, a man of exceptional intellect, volunteered a similar explanation for his own excesses. Satiety also brings in its train a deterioration of normal sexual sensibility, with an increase, if anything, in the sexual appetite. As a result, the deluded and unfortunate being seeks for new and varied means of gratification, often degrading in the extreme. Add to this condition, intemperance or disease, and the individual may become the lowest type of sexual pervert. As Hammond concisely puts it, regarding one of the most disgusting forms of sexual perversion: "Pederasty is generally a vice resorted to by debauchees who exhaust the resources of the normal stimulus of the sexual act, and who for a while find in this new procedure the pleasure which they can no longer obtain from intercourse with women."

When the differentiation of sex is complete from a gross physical standpoint, it is still possible that the receptive and generative centers of sexual sensibility may fail to become perfectly differentiated. The result under such circumstances might be, upon the one hand, sexual apathy, and upon the other, an approximation to the female or male type, as the case may be. Such a failure of development and imperfect differentiation of structure, would necessarily be too occult for discovery by any physical means at our command. It is, however, but too readily recognized by its results.

There exists in every great city so large a number of sexual perverts, that seemingly their depraved tastes have been commercially appreciated by the *demi-monde*. This has resulted in the formation of establishments whose principal business it is to cater to the perverted sexual tastes of a numerous class of patrons. Were the names and social positions of

[1] Medical Standard, November, 1888.

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these patrons made public in the case of our own city, society would be regaled with something fully as disgusting, and coming much nearer home, than the *Pall Mall Gazette* exposure.[1]

The individuals alluded to would undoubtedly resent the appellation of "sexual pervert;" but, nevertheless, in many instances they present the disease in its most inexcusable form: that from vicious impulse. Personally, I fail to see any difference, from a moral standpoint, between the individual who is gratified sexually only by oral masturbation performed by the opposite sex, and those unfortunate mortals whose passions can be gratified only by performing the active role in the same disgusting performance. One is to be pitied for his constitutional fault; the other to be despised for his deliberately acquired debasement. In the case of the professional prostitute who panders to the depraved sexual tastes of certain male specimens of the *genus homo*, she has, at least, the questionable excuse of commercial instinct, and in some cases the more valid one of essential sexual perversion. These excuses the majority of her patrons certainly do not have.

An interesting theory, bearing upon the question of sexual perversion in its relations to evolutionary reversion, is advanced by Professor S. V. Clevenger.[2] This is well worthy of repetition and I will therefore quote it verbatum: "A paper on Researches into the Life History of the Monads, by W. H. Dallinger, F. R. M. S., and J. Drysdale, M. D., was read before the Royal Microscopical Society, Dec. 3, 1873, wherein fission of the monad was described as being preceded by the absorption of one form by another. One monad would fix on the sarcode of another, and the substance of the lesser or under one would pass into the upper one. In about two hours the merest trace of the lower one was left, and in four hours fission and multiplication of the larger monad began. A full description of this interesting phenomenon may be found in the *Monthly Microscopical Journal* (London), for October, 1877. Professor Leidy has asserted that the amœba is a cannibal, whereupon Mr. Michels, in the *American Journal of Microscopy*, July, 1877, calls attention to Dallinger and Drysdale's contribution, and draws therefrom the inference that each cannibalistic act of the amœba is a reproductive, or copulative one, if the term is admissible. The editor (Dr. Henry Lawson) of the English journal agrees with Michels."

"Among the numerous speculations upon the origin of the sexual appetite, such as Maudsley's altruistic conclusion, which always seemed to me to be farfetched, I have encountered none that referred its derivation to hunger. At first glance such a suggestion seems ludicrous enough, but a little consideration will show that in thus fusing two desires, we have still to get at the meaning and derivation of the primary one, desire for food. The cannibalistic amœba may, as Dallinger's monad certainly does, impregnate itself by eating one of its own kind, and we have innumerable instances, among algæ and protozoa, of this sexual fusion appearing very much like ingestion. Crabs have been seen to confuse the two desires by actually eating portions of each other while copulating; and in a recent number of the *Scientific American*, a Texan details the *mantis religiosa* female eating off the head of the male mantis during conjugation. Some of the female *arachnidæ* find it necessary to finish the marital repast by devouring the male, who tries to scamper away from his fate. The bitings and even the embrace of the higher animals appears to have reference to this derivation. It is a physiological fact that association often transfers an instinct in an apparently outrageous manner. With quadrapeds it is most clearly olfaction that is most related to sexual desire and its reflexes; but not so in man. Ferrier diligently searches the region of the temporal lobe near its connection with the olfactory nerve for the seat of sexuality; but with the diminished importance of the smelling sense in man, the faculty of sight has grown to vicariate olfaction; certainly the 'lust of the eyes' is greater than that of other special sense organs among Bimana.

"In all animal life multiplication proceeds from growth, and until a certain stage of growth, puberty, is reached, reproduction does not occur. The complementary nature of growth and reproduction is observable in the large size obtained by some animals after castration. Could we stop the division of an amœba, a comparable increase in size would be effected. The grotesqueness of these views is due to their novelty, not to their being unjustifiable. While it must thus seem apparent that a primeval origin for both ingestive and sexual desire existed, and that each is a true hunger, the one being repressible, and in higher animal life being subjected to more control than the other, the question then presents itself: What is hunger? It requires but little reflection to convince us of its potency in determining the destiny of nations and individuals, and what a stimulus it is in animated creation. It seems likely that it has its origin in the atomic affinities of inanimate nature, a view monistic enough to please Haeckel and Tyndall."

Dr. Spitzka,[1] in commenting on the foregoing, says: "There are some observations made by alienists which strongly tend to confirm Dr. Clevenger's theory. It is well known that, under pathological circumstances, relations, obliterated in higher development and absent in health, return and simulate conditions found in lower and even in primitive forms. An instance of this is the pica or morbid appetite of pregnant women and hysterical girls for chalk, slate-pencils and other articles of an earthy nature. To some extent this has been claimed to constitute a sort of reversion to the oviparous ancestry, which, like the birds of our day, sought the calcerous material required for the shell structure in their food. There are forms of mental perversion properly classed under the head of the degenerative mental states with which a close relation between the hunger appetite and sexual appetite becomes manifest. Under the heading '*Wallust, Mordlust, Anthropophagie*,' Krafft-Ebing describes a form of sexual perversion where the sufferer fails to find gratification unless he or she can bite, eat, murder or mutilate the mate. He refers to the old Hindoo myth: Civa and Durga, as showing that such observations in the sexual sphere were not unknown to the ancient races. He gives an instance

[1] Since the above was written the world has been regaled with the exposure of an establishment in London patronized by the aristocracy, which was devoted to the procurement of young boys for the purpose of passive pederasty. I have also obtained positive knowledge of a physician in this city who has presented disgusting manifestations of sexual perversion to his female patients.

[2] Physiology and Psychology, 1885.

[1] *Science*, June 25, 1881.

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where, after the act, the ravisher butchered his victim and would have eaten a piece of the viscera; another where the criminal drank the blood and ate the heart; still another where certain parts of the body were cooked and eaten."[1] *Nature* (London), commenting on my article, quotes Ovid: "*Mulieres in coitu nonnemque genas cervicemque maris mordunt.*" Illustrations of the varying types of sexual perversion are of late years finding their way into literature. A very interesting series of cases is related by Professor von Krafft-Ebing. *Journal of Neurology and Psychiatry.*

Hammond, quoting from Tardieu,[2] chronicles the following interesting points with regard to one form of sexual perversion: "I do not pretend to explain that which is incomprehensible, and thus to penetrate into the causes of pederasty. We can nevertheless ask if there is not something else in this vice than a moral perversion, than one of the forms of *psychopathia sexualis*, of which Kaan has traced the history. Unbridled debauchery, exhausted sensuality, can alone account for pederastic habits as they exist in married men and fathers of families, and reconcile with a desire for women the existence of these impulses to unnatural acts. We can form some idea on the subject from a perusal of the writings of pederasts containing the expression of their depraved passions. Casper has had in his possession a journal in which a man, member of an old family, had recorded, day by day, and for several years, his adventures, his passions, and his feelings. In this diary he had, with unexampled cynicism, avowed his shameful habits,which had extended through more than thirty years, and which had succeeded to an ardent love for the other sex. He had been initiated into these new pleasures by a procuress, and the description which he gives of his feelings is startling in its intensity. The pen refuses to write of the orgies depicted in this journal, or to repeat the names which he gave to the objects of his love."

"I have had frequent occasion to read the correspondence of known pederasts, and have found them applying to each other, under the forms of the most passionate language, idealistic names which legitimately belong to the diction of the truest and most ardent love. But it is difficult not to admit the existence in some cases of a real pathological alteration of the moral faculties. When we witness the profound degradation, the revolting salacity of the individuals who seek for and admit to their disgusted favors men who are gifted both with education and fortune, we might well be tempted to think that their sensations and reason are altered; but we can entertain no doubt on the subject, when we call to mind facts such as those I have had related to me by a magistrate, who has displayed both ability and energy in the pursuit of pederasts. One of these men, who had fallen from a high position to one of the lowest depravity, gathered about him the dirty children of the streets, knelt before them and kissed their feet with passionate submission before asking them to yield themselves to his infamous propositions. Another experienced singularly voluptuous sensations by having a vile wretch administer violent kicks on his gluteal region. What other idea can we entertain of such horrors than that those guilty of them are actuated by the most pitiable and shameful insanity?"

[1] Ueber gewisse Anomalien des Geschlechtstriebes. Von Krafft-Ebing, Archiv. fur Psychiatre, VII. It is unnecessary to call attention to the logic of Dr. Kiernan's deductions from the above as applied to the Whitechapel horrors. ("Sexual Perversion and the Whitechapel Murders." Dr. J. G. Kiernan, *Medical Standard*, November, 1888.)

[2] "Sur les attentats aux mœurs. Paris, 1858, p. 125.

Important Surgical Cases from General Practice

Read at the Semi-annual Meeting of the Military Tract Medical Association, at Galesburg, October 15, 1889.

By J. F. Percy, M. D., of Galesburg, Ill.

Two cases of Phimosis, with peculiar nervous symptoms, circumcision in both, followed by death in one, recovery in the other:

Case 1. April 13, 1889, at 5 p. m., I was called, in the absence of the attending physician, the Senior Dr. Cooper of this city, to see George G., æt. 4 years. Family history, as far as the grandparents are concerned, good. The parents have had four children. Two are dead. The first child, æt. 16 months, died after the removal of the left eye for a cancerous growth; the second is the one that concerns us in this report. Of the two children, one age 3 has an indirect inguinal hernia, and his sister, age 7, is suffering from a marked cyanosis due to incomplete closure of the cardiac foramen ovale. The patient was well developed. I learned at this visit that he had been sick three weeks with what the attending physician called "intermittent fever." I was sent for because he had had a "chill," or "sinking spell," and the parents considered him much worse. On examining the child I found a pulse of 90; temperature in the axilla normal; pupils normal and responding to light; reflexes absent; bowels and bladder normal and under control; appetite poor; surface temperature about normal to the hand. There was no apparent paralysis of any of the muscles; tympanites was not present, and no response of pain could be elicited by localized pressure along the spine. On arousing the patient, found the intellect dull and slow to respond. He seemed to realize that a strange physician was with him. At this time he readily recognized his father and mother.

I determined that the peculiar twitching motion to be observed at times was mistaken by the parents for chill. This symptom had appeared that day for the first. Such, in brief, was the condition of this patient at the time of my first visit. I could not account for a condition apparently so serious. Previous to this case my attention had been called to the subject of diseases of the central nervous system, in males due to phimosis, from cases occurring in my own practice. It was this previous experience that suggested investigation of the condition of the external genital organs of this child. I was not surprised to find a tightly contracted foreskin.

I suggested that the plan of treatment then in vogue be kept up until the regular medical attendant returned, when the propriety of operating for the phimosis would be considered. At midnight I was called again, the regular medical adviser had not returned to the city. I was called because the child had had another severe chill or sinking spell. I noticed, however, the same twitching of the general muscular system to be seen at the first visit and by the parents regarded as a chill. The first time I saw the child my thought was that he should be circumcised; but

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in the absence of the family physician I decided to wait. But the condition in which I found him at this visit made me feel that further delay was useless if not dangerous, and without more ado I slit up the foreskin. I found a hardened mass of sebaceous material around the corona of the gland and a marked granular urethritis at its orifice. In operating I did not use an anæsthetic, fearing that a morbid condition such as was present would be aggravated by it. The patient seemed to suffer but little pain during the operation. The next morning, in company with the physician of the family, I saw the case again; the condition had not changed materially, except that the child had grown more quiet since the operation. The muscular tremor not recurring and there being no return of the symptoms.

I did not see the case after this visit but learned of the death four days later. The symptoms did not change in character but remained about the same; the child dying as from asthenia. In conversation, a few days after, with the physician who first saw the case, I learned that he did not believe the phimosis to be connected in any way with the symptoms or with the fatal result, and that he did not believe it to be a case of either meningitis or infantile paralysis. He looked upon it as one of the obscure cases met not infrequently in which an accurate diagnosis could not be made.

Case 2. C. C., male, æt. 3 years. Family history good. I was called April 3, 1889. The mother gave the following history: Until four or five months ago patient was of a bright, sunny disposition. About this time he commenced, gradually, to grow irritable and cross, thus was hard to control. She then decided to go South with him, and with a younger child left about February 10th. About the middle of March, his condition not being any better, she started for Indianapolis to visit a sister and get medical advice for her boy. The physician who saw the case could find nothing to account for the symptoms except a contracted prepuce. This he thought necessary to treat and did so stretching the foreskin. This treatment ment gave the child relief for some time. When I saw the case all the old symptoms had returned.

I circumcised not only this child but also his brother, æt. 18 months. In both cases the foreskin was firmly adherent to the corona of the glans penis, showing the cause to be congenital, with a mass of hardened smegma beneath. The result of the operation was total disappearance of the symptoms, and at the present writing he is in splendid physical health.

I bring these cases before you for two reasons: First, I fear that congenital phimosis is too often overlooked as a cause of nervous disease in childhood and adults. I say adults, because of an experience with a case of phimosis in a man 45 years of age, on whom I operated for that condition, with total disappearance as a symptom of want of co-ordination in the lower limbs. The notes of the case were not available for this paper, but I hope to report it at a future meeting.

I report these cases, secondly, that we may learn, if possible, whether phimosis is ever a direct or indirect cause of death. As for myself, that it is a cause of death I firmly believe; that it was the cause of death in Case No. 1 I am convinced.

Sayre, in his lectures on Orthopedic Surgery, and Diseases of the Joints, says: "This subject of nervous irritation and consequent exhaustion from undue genital excitement is one of a vast deal of importance, and has not received the attention at the hands of the profession that it justly deserves."

D. Campbell Black, in his work on "Functional Diseases of the Renal, Urinary and Reproductive Organs," after citing some of Sayre's cases in full, says: "I offer no apology for thus giving considerable prominence to the foregoing cases. I attach to them immense importance as disclosing, possibly, a frequent source of infantile paralysis, and the numerous indications of nervous irritability in childhood." But he does not refer to the fact of its ever causing death.

Smith, in his work on diseases of children does not refer to the subject. What causes death? I am not prepared to say, unless, as in the case I report, from the constant irritation the nervous system was worn out prematurely.

True, one swallow does not make a summer, but a frog sometimes makes a spring. As to the operations for phimosis, when I first practiced it I tried to follow out the elaborate technique described in the books, *i. e.*, with clamps to hold the foreskin, excising it and then stripping up the adherent mucous membrane, leaving it about one-eighth inch longer than the integument, and cutting off, after which I would stitch the two together with some fine suture.

But after failures due to contraction and a condition worse than the original, I commenced by simply slitting up the foreskin on the dorsum of the penis, trimming the dog-ears left, and then drawing the membrane together by a single stitch at the apex of the cut. This operation left a very satisfactory, if not an elegant appearance of the parts. At the present time I draw the foreskin down by a tenaculum inserted into its dorsum and base, incise, retract, again incise the mucous membrane, clean the parts and dress with a cold-water dressing. Suturing is not necessary in the great majority of cases. This method in very young children is simple and certain in its results as an operation. I want to protest against the idea that stretching the foreskin should ever take the place of excision. It causes more suffering, and is never permanent. You cannot stretch congenitally contracted tissue and get good results.

Chronic Ulcerative Inflammation of the Mastoid Cells. Operation—Meningitis—Death. March 6, 1888, was called to see G. W. M., carpenter, æt. 53. Family history good. He had been an unusually healthy man. When seen he was suffering from pain referred to the right side of the head. The pain had been more or less severe for six months. I learned that he had been treated during this time by a quack homœopath for neuralgia. There was a pulse of 95, temperature under the tongue, 99½. On examination of the ears I found the remains of an old otitis media in the right. The anterior three-fourths of the membrane tympanum was gone. The patient had no knowledge of any past ear trouble. Did not know that there was a perforation—only knew that he was a little deaf in the right ear. It did not seem possible that his present difficulty was due to the chronic otitis, for there was no discharge from the internal ear; it was dry—even abnormally so. There was no pain on pressure over the mastoid process, nor was there swelling or redness.

I had the teeth examined by an able dentist but no trouble was found there. In the way of treatment I

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gave him everything, internally and externally, that the books laid down for neuralgia, or that my brother practitioners suggested. In fact, I went from Dan to Beer-sheba without result except from anodynes. Salicylate of soda, however, seemed to give him some relief.

The pain gradually became worse and his suffering at times was intense. From the first I felt that the whole trouble was in the mastoid process, but in the absence of objective symptoms, I did not feel like interfering. He suffered more or less another week and then I determined at all hazards to open the cells. Before doing this I asked Dr. Aldrich to see the case. After a thorough examination he could suggest no cause except the old chronic lesions in the ear. He agreed with me as to the propriety of opening the mastoid cells. I arranged for and performed the operation the next day, assisted by Drs. Aldrich and Ryan. The marks of the large drill I used can be seen on the specimen obtained post-mortem. The direction of the drill was inward, forward and upward for nearly three-fourths of an inch; at this distance pus was found. At least half a teaspoonful welled up from the opening. The cavity was washed out with a bichloride solution 1-5,000. The operation relieved the patient of all symptoms for twenty-six days. After this the pain and other distressing symptoms gradually returned. I feared that another pocket of pus had formed and operated again, assisted as before by Drs. Aldrich and Ryan. From this operation no results came, except a further relief for two days. All the ominous symptoms returned and he gradually sank and died four weeks from the first operation.

Post-mortem six hours after death: On exposing the mastoid region of the brain on this side, found the dura mater rough and congested with a thin film of pus covering it. Part of the petrous portions of the temporal bone was eroded, and pus percolated from its sinuses and foramen. The mastoid antrum was filled with pus. Death, then, was due to a purulent basiler meningitis. I want to call your attention to the extreme hardness of the process, not only outside, but all through the bone tissue. Even the cells are in this condition of sclerosis. You will see on the specimen marks of a trephine. I attempted to get through the periosteum and outer thickness of bone with this, hoping to be able then to drill in any direction necessary. But the osseous tissue was as dense ivory, and we had to give it up, and simply use the drill.

Buck's excellent work on diseases of the ear has the following, which, in connection with this case, will be interesting. Speaking of Chronic Ulcerative Inflammation of the Mastoid Antrum, he says:

"From this class of mastoid affections come, probably, the greater number of fatal cases of ear disease. Through a period of months, or, more commonly of years, the patient is affected with a chronic discharge from the ear. The underlying disease begins as a simple purulent inflammation of the middle ear, and then, in the course of time, usually through the instrumentality of an obstructed outlet, the solid elements of the discharge—pus cells, epithelium, detritus, cholestearin, crystals, etc.—begin to accumulate in the antrum. While these changes are taking place, the mastoid cells are being steadily reduced in size by a chronic osteites, and by the time that the accumulating solid matters have filled the antrum, the mastoid process will be found to have reached the condition of complete sclerosis. The natural outlet into the tympanum, and oftentimes the tympanum itself, become so blocked up with cheesy material, granulation tissue, etc., that conditions are afforded which are favorable to ulceration or caries of the surrounding bone. This ulceration of the walls of the antrum will take place in whatever directions the least resistance is met with. The directions in which the resistance is least are, first, upward toward the brain, and, next, backward toward the lateral sinus. In one or both of these directions, therefore, a destructive carious process may be expected to take place, if a vent be not established by artificial means sufficiently early to prevent such an issue.

"In this variety of mastoid disease, pain, at times severe, is the most prominent symptom. While in the previously described variety external evidences of the underlying mastoid disease are rarely wanting, in this form of the disease they are rarely present. On the other hand, one can usually find unmistakable evidence that the outlet through which the pus has been escaping from the middle ear into the auditory canal is too narrow to permit the discharge to escape freely from the more deeply situated cavities. The persistence of pain, therefore, under such circumstances becomes a very important indication—in fact, often the only indication—of the severity of the deeper lying ulcerative inflammation.

"If we wait for the development of additional manifestations of this treacherous disease of the antrum before taking active steps to check it, we may rest assured that in many cases we shall let slip the golden opportunity of saving the patient's life.

"Cases are now and then encountered in which, by skillful interference, we may succeed in clearing the antrum of its foul contents, and in re-establishing a free outlet for the secretions that constantly accumulate in it, without boring through the outer portion of the mastoid process.

"As a rule, however, this is not practicable. In a general way, we may say, that this form of mastoid disease admits of only one safe and effective plan of treatment, viz., that which consists in the establishment of a free channel of communication between the antrum and the outer air, through the mastoid process."

In this connection I want to refer (to condemn) to those practitioners, who, when they are called upon to treat? (it is usually by non-interference), cases of acute, subacute or chronic purulent inflammation of the middle ear, tell the family to let it alone, that the patient will outgrow his ear trouble. I doubt not that the mother of my patient had this falsehood whispered in her ear.

Two Cases of External Perineal Urethrotomy—Recovery in both. Case 1. September 23, 1888, I was asked by Dr. Carr, of this city, to see N. P., native of Sweden, æt. 53, Shoemaker. Family history good. From the doctor I learned that his patient had suffered from a deep urethral stricture about twenty-five years, and that it was probably due to a gonorrhœa, contracted on the gold coast. The patient had had difficulty in urinating for a long time and any indiscretion in eating, drinking or exposure of his person to inclement weather, was almost certain to cause retention. In this attack attempts had been made to pass various sizes and forms of catheters, but without suc-

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cess. The urethra had given way and considerable blood was lost. An attempt was made under ether to pass various sizes of conical sounds, but it was of no avail. It was then thought best to make an opening into the bladder through the perineum, including the strictures in the incision. Assisted by Drs. Carr, Aldrich and Ryan, a median external perineal urethrotomy was performed. Two strictures were divided below the one torn, before the bladder was reached. Immediately after the division of these strictures, a large quantity of thick ammonical urine was expelled from the bladder, showing the presence of a cystitis. The organ was washed out with a hot boracic acid solution; a metal catheter tied in for about thirty-six hours, and after three days a number fifteen American conical sound passed easily. The passing of sounds was kept up at intervals for some months. The case progressed favorably to an uninterrupted recovery. I might state that for a few weeks after the operation the patient had some difficulty in retaining the urine. Probably due to division, during the operation, of the accelerator urinæ muscle. Dr. Carr reported a short time ago, that he could pass with ease a number seventeen American sound, and that the patient now has full control of the bladder; the cystitis has disappeared, and that practically, he has a normal urinary apparatus.

Case 2. March 14, 1889, I was asked by Drs. Cowan and Phillips of this city to see John W., German, aet. 40, occupation railroad engineer. I found a fairly well developed man in an unconscious condition with a temperature of 104° F. Pulse 150. Respiration 36 and shallow. Tongue dry, brown and fissured and the teeth covered with sordes. Belly greatly distended, tympanites marked; the scrotum and penis, the inner side of the thigh, the abdomen and the adjacent tissue swollen and boggy, due to infiltrated urine. There was a marked erysipelatous roseola over the scrotum and perineum. Bluish spots were to be seen especially on the left side of the scrotum; in size about that of a silver quarter. Such was the unfavorable condition of our patient; not very promising surely. The question of an external perineal urethrotomy was discussed and the reasons for and against surgery as a help in the case were stated. The question was finally left to the wife who decided in favor of the operation. The patient was placed on the table; and with the assistance of Drs. Cowan and Phillips the median operation was performed. A guide could not be passed far enough into the urethra to be of any practical service—the finger in the rectum made a better one. In the incision abscess cavities were entered showing the injury the parts had sustained. The bladder was entered with some difficulty. After draining off the contents, which were ammonical and mixed with mucous, the organ was washed out with a bichloride solution. Sinuses leading to the abscess cavities were searched for and treated. A metal catheter was passed through the urethra and left for a few days.

During the operation the question of free incisions into the urine infiltrated tissue was discussed, but the majority advised against such a practice. We learned our mistake when about one and a half inches of the deep urethra sloughed out, followed in a few days by the left side of the scrotum and all of the left testicle.

Charcoal and yeast poultices did good service in this condition. The case made a slow and tedious but sure recovery. The man now has complete control of his urinary apparatus and the stream is full and free; he has gained greatly in weight and is following his vocation. At the last examination the urethra would admit a No. 16 American sound.

It would be interesting here to know what process the sloughed out part of the urethra has undergone in the way of repair. Was a new portion formed? From this case we may conclude that it is hardly too late at any stage to operate where there is infiltration of urine. First, the stricture should be relieved; Second, the tissue infiltrated with urine must be extensively incised; third, gangrenous spots appearing should be poulticed with charcoal yeast and linseed meal until they separate, and then a mildly stimulating dressing applied until they heal; fourth, "recoveries after infiltration seem sometimes almost miraculous," as in this case, "and life is not to be despaired of even in cases of the most extensive sloughing."

A Case of Perforation of the Vermiform Appendix; Ante-Mortum; Death.—Tuesday, July 3, 1888, about 4 o'clock p. m., I was summoned to see Wm. M., a recently married Irishman, æt. 28, by occupation a brick-maker, and a former resident of Chicago. Family history good. I found a fairly well developed man suffering from abdominal pain referred to the region of the navel. He gave a history of five or six similar attacks, covering a period of seven years. The history of the present attack was one of pain, commencing the day before, not severe, yet necessitating his leaving work and remaining about home.

I learned that the previous attacks had in all respects been similar to this one. He said that he usually called a physician, and after a few days' rest, with treatment, was able to resume his work. My diagnosis at this visit was gastralgia, due perhaps to malaria, and for the following reasons: First, the pain referred to the region of the umbilicus; second, the history of repeated attacks; third, a feeling of malaise for a few days preceding.

There was no fever at this visit. My treatment was as follows: On learning that the bowels had not moved for two days, I prescribed twenty grains of calomel and two-grain doses of quinine every three hours until it caused ringing in the ears. I left the house with instructions to call me the next day if he was not comfortable. Toward noon of the following day I was sent for to see Mr. M. again. He had had a free movement of the bowels early that morning. The pain had not abated in the least. I made a careful physical examination of the abdomen, and was surprised to find a localized tympanites, a little below and to the right of the umbilicus, over the ascending colon. Pain on pressure could be elicited in the right inguinal region; I became suspicious of a trouble far more serious than gastralgia. My mind questioned: Is this case one of perforation of the vermiform appendix? It certainly was not a general peritonitis, for the signs of the trouble were localized. I told my suspicions to the patient and his wife, and at the same time informed them that, if my diagnosis was correct, an operation would be necessary. I explained to them what it was for, and its magnitude and danger. They decided, after debating the matter, to do whatever I thought was best, and that they would abide by the result.

Gentlemen, do you remember the cases in your practice in which the privilege of acting as both judge and jury was given you? Imagine, then, my sense of

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responsibility when told by this young couple to go ahead and do what in my judgment was best.

I asked a brother practitioner to see the case with me. This doctor (No. 1) did not agree with my diagnosis or plan of treatment. He was sure that the case was one of obstruction of the bowels, for, if there was perforation, tympanites would be more marked; also, the pain; and the general constitutional disturbance, with fever, would be greater. Following out that idea, he advised and practiced giving large doses of salts and senna, with copious rectal injections.

These were practiced for seventy-two hours, without a movement of the bowels, other than the discharge of a small quantity of fecal matter, probably from the lower bowels, after the injections had been continued for so long. The amount of fecal matter led this physician to the almost certain conclusion that the case was one of simple obstruction, and that it would soon yield to his plan of treatment.

In the meantime I prepared to operate and asked doctor number one to associate with us doctor number two. This was agreed to. Doctor number two, after a careful review of the case decided that it was probably one of perforation of the bowel, and advised an exploratory operation for the purpose of diagnosis. Doctor number one, however, was so certain that it was a case of simple volvulus (he had had a number of similar cases in a large practice extending over a great many years—and all had recovered under this plan of treatment), that doctor number two advised that he be allowed to treat the case. I concurred in this on condition that doctor number three be called. Doctor number three was called. He did not commit himself more than to say that the case would get well whether operated on or not. But to test the question of obstruction or perforation advised Senn's method of rectal insufflation of hydrogen gas. As this plan could not be practiced doctor number one continued his salts and senna, with warm water injections. I plead early but without avail for a laparotomy, and when I saw that my pleading would avail nothing I left the case.

In reference to the treatment of this class of cases I want to beg of you gentlemen not to neglect so great an opportunity to save the life of your patients as an early exploratory laparotomy, and for two reasons: First, diagnosis. Second, treatment. The fearful mortality (nearly 100 per cent) from intestinal obstruction or perforation, shows the general inefficiency of the medical methods now so generally employed. You cannot overcome by drugs a mechanical condition. When you think that perforation and even obstruction (from non-pathological causes), is not of itself necessarily fatal, what excuse is there for permitting a condition capable of simple surgical treatment to become a grave one, as was done in this case? You do not delay in a case of strangulated hernia, why should you in this? If a farmer with a dirty knife, and if possible a worse condition of the hands, can perform a successful ovariotomy on kine, swine or bitch, why in the name of the science of this age cannot a physician open up a dangerous place in the abdominal cavity and make it benign? But some will ask, "Can you show much better results from operative interference? Yes, and no." Yes, if you will accept the work done by men; principally those having large clinical advantages, who are after records, and who usually operate on such cases as offer more than a fair chance for recovery. No, if you refer to the men in general practice who wait for the Lord or the devil to make crooked paths straight—in other words wait for something to turn up—and it is usually the patient's toes. They are waiting for symptoms, and all the while keeping the very symptoms they are waiting for masked by opium. And again no, if there has been a preliminary, misplaced confidence in drugs, as there was in my case. But there is a medium where the true and conscientious surgeon will do his duty; *i. e.*, operate at once in the beginning of all acute attacks. Too many of us are willing to adopt the "trust to luck" method, and when our passenger has gone over the river become in spirit presbyterians, and with the family and friends talk foreordination and predestination and the will of Providence. I tell you, gentlemen, it is a mean way to treat Providence, and that same power when the books are open and all surgical statistics shall be read in the light of truth, if I mistake not will hold us responsible for the deeds done in the flesh.

But pardon this digression: My patient, I learned, was still suffering. The salts, senna and opium treatment had been followed faithfully until stercoraceous vomiting occurred, when it was discontinued. At this stage I was again asked to see the patient. At this visit the wife asked me if I still thought that an operation was the only thing that could be done. My reply was, "if anything will do any good it will be surgery." At this late hour they consented to an operation. I immediately summoned my colleagues, doctors number one, two, three, and added number four. Inside of two hours our patient was inhaling an anæsthetic.

But, gentlemen, even in this stage, to the practiced eye it could be seen that that grand assembly of functions in my patient called life, and which resists death was maintaining a heroic fight, with the odds in favor of death as the victor. Prognosis deals with but two factors—life and death. In this case it was to be death. The dilated pupil, the glazed eye and relaxed smile gave no encouragement or cheer for anything else. I quietly communicated my fears to the wife, telling her that the operation would probably be an ante-mortem before we were through, and so it proved. But I will not weary you with further detail. Assisted by Drs. Wilson, Hurd, Ryan and Spence (who will vouch for the correctness of my statements), I cut through the abdominal walls and found the contents of the abdomen intensely congested with the intestines fully dilated and glued together. I went at once down to the vermiform and brought it into view. A small quantity of pus escaped from its base and fæcal matter could be squeezed from two perforations in it. I exhibit for your inspection the specimen as I found it.

The patient died just ten days after my first visit. I want to draw a few lessons from this case for our use. First. As to some of the symptoms: I have not mentioned as present a symptom that I could not account for at the time, and that is retraction of the right testicle, with pain in the glans penis. In looking up the subject since, I find that Tiffany speaks of peculiar pains in the penis, and in an elaborate paper by Fitz on "Perforative Inflammation of the Vermiform Appendix," stress is laid upon disturbance of the urinary and genital organs—both of these then may be of diagnostic import. As you have already learned, this case did not prove to be one of intestinal obstruction,

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and it is natural to ask then, why did not the bowels move after the cathartic medicines had been given, especially when given in such large doses and so faithfully. The only reference in explanation that I find to the subject is in the course of an article on this disease by J. McFadden Gaston, M. D., Atlanta, Ga., in the *Journal of the American Medical Association* of June 23, 1888, as follows:

"There are in most instances some concomitants of the local trouble manifested in derangement of the alimentary canal, perhaps of a reflex order, prior to the extension of the inflammatory process to the adjoining structures. In the early history of appendicitis it has been noted that there may occur either a disposition to frequent evacuations or a state of intestinal torpor, in which it is difficult to arouse the peristaltic action of the bowels either by purgative medicines or enemata. During this period the constitutional disturbance is not very marked, and yet there exists usually a febrile state with slight rise of temperature, so that nice discrimination will detect a departure from a normal condition of the system."

Again referring to symptoms, H. H. Smith, of Philadelphia, speaks of fever as often a marked symptom. He also refers to one of the symptoms that I mentioned as occurring in my case, and which led me to think of gastralgia. It is as follows: "Often there is pain towards the navel and a sense of constriction of the belly as in hernia, with continued constipation, or one or two movements of the bowel, and then constipation." Again he says: "These symptoms under the ordinary treatment of colic, may pass off and not return for several weeks; but after an uncertain period of weeks or months, the griping and vomiting return with more violence though sometimes the attack is violent from the commencement, with evidence of disorder in the right iliac or lumbar region, the patient ignoring previous attacks and misleading his physician unless closely questioned." It was shortly after the perusal of the valuable papers from which I have quoted, that the case I put on record to-day was treated. From them I got the faith that was in me that my case was one of perforation of the bowel and not simple obstruction.

Another word in regard to the symptoms: I have said that doctor number three did not commit himself as to the diagnosis, but to test the question of obstruction advised a trial of Senn's method as a diagnostic test. I have had no experience with this method, yet it has occurred to me since that this method in this particular case would not have given satisfactory results; and for two possible reasons. First. There was already great distension of the bowel, even more than that, the distension was without doubt due to paralysis. Would the hydrogen gas have passed through the paralyzed portion of the alimentary tract and out by mouth; and if so, would it have done this without causing so much greater distension as to affect the continuity of the bowel and thus induce greater danger from peritonitis? In the early stages there would not have been this danger, as Senn in his classical experiments shows.

I throw this out simply as a suggestive question, for I do not know. But secondly, and of more importance in regard to this method, is the fact that this plan in this case used early or late could not have even helped make the diagnosis of perforation of the vermiform appendix.

That it would in the beginning clear up the question of diagnosis as far as obstruction was concerned, I have not a doubt; but the perforation could not be found by it. And why? If you notice the specimen, it is hard and full, probably of impacted fæces; gas could not get in there so as to be of any use for diagnostic purposes. And the presence of foreign substances in the appendix is not an uncommon occurence, for I find by reference again to the literature on the subject, such bodies as seeds, shot, pins, needles, fish bones, gall stones, entozoa or lumbricoides, and even blood mentioned as found in this maelstrom of the intestinal tract. Then again multiple abscesses of the liver and portal phlebitis are spoken of. Thus this hope of all as an infallible, scientific, diagnostic proceedure is left to take its place as one of the few ways of getting at the diagnosis in this often obscure condition. Is it well here to ask, who killed cock robin? Is it good sense to wonder—that if he had been left to opium and nature as he had been "five or six" times before, that the result would have been different? Echo answers, verily. In this connection and with this thought I want to close my paper with a quotation from the preface to the first edition to Sydenham's "Method of Curing Fevers." The book appeared in 1666 and opened as follows: "Whoever takes up medicine should seriously consider the following: that he must one day render to the Supreme Judge an account of the lives of those sick men who have been intrusted to his care."

Traumatic Tetanus—History and Treatment of a Case.

Read before the N. C. Illinois Medical Association at La Salle, December 3, 1889,

By Dr. James S. Whitmire, of Matamora, Ill.

Mr. President and Gentlemen of the Society: A very interesting case of tetanus came under my care September 16, 1889, which I will endeavor to report in as concise a manner as possible, so as to make it intelligible, and hope that it may not prove uninteresting to the members of this society:

The case was that of Robert Koch, American, German descent, 8 years of age, son of Henry Koch, living four miles west of Metamora. The history of the cause of the case is this: On the 12th of September, the boy, with other children, was playing on the premises, when he fell from the top of a gate, some five or six feet, lighting on his shoulders and back. The fall stunned him a little at the time, but he soon seemed to recover from the shock, and went on with his play as usual. The boy was thinly clad, barefooted, and the weather damp and cool; but he continued to run and play every day, making no complaint, except of a little soreness just over the second or third dorsal vertebra, until the morning of the 16th of September, when he complained to his mother, on rising from bed in the morning, that he could not open his mouth, and it was difficult for him to swallow liquids, and he seemed to use his legs clumsily. This alarmed the family, and I was sent for and saw him about 10 o'clock a. m.

After making inquiries which elicited the foregoing facts, I gave him a close examination, and found no marks of injury on the surface, but slight tenderness along the spine, between the shoulders. I at once diagnosed incipient inflammation of the meninges of the

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spinal cord, from the shock and injury produced by the fall, and told the family that they might expect to have a tedious long siege, and that the boy would probably grow worse for several days. The boy's pulse was not accelerated, it being 86 and the temperature normal. The first indications for treatment were to lesson the irritability of the nerve centers by sedation, and to prevent, as far as possible, the progress of the inflammation of the meninges of the spinal cord. To accomplish the former I put him on potas. brom. 3ijss, ammon. brom. 3ii, fluid ext. ergot, f 3iii, fluid ext. hyos. gtt. lx, fluid ext. gelsem. gtt. Lx., fluid ext. verat. gtt. xxx, fluid ext. physostig. venosum gtt. xxxii. Hot water to fill a two-ounce bottle. Of this mixture one teaspoonful was given in water every four hours, and if there was much difficulty in deglutition, it was to be given per anum by injection in a slightly increased dose.

As an antiphlogistic to counteract the inflammatory process going on in the meninges of the cord, in addition to his bromide mixture, I gave grs. iii, hydrarg. chlor. mit.; gr. 1/10 podophyl.; grs. iii bicarb. soda.; in capsules, one to be taken between each dose of his bromide mixture, or four hours apart, till he was thoroughly purged. The mercury was to be continued till his breath showed its constitutional effect. Hot turpentine stupes were kept to the spine to the extent of endurance, only leaving them off when he could bear them no longer. This treatment was followed day and night till September 20, when his gums and breath began to show the mercurial influence. In the interim his bowels had been thoroughly evacuated. Notwithstanding this energetic treatment the muscular rigidity or spasm had steadily progressed, till now he had complete oposthotinus; his legs stiff but straight, and his feet drawn to a position of talipes equinus. I now dropped the mercurial from his prescription, and morph. sul. gr. 1/8, ipecac gr. i, pot. nit. grs. iv, pulv. gum camph. gr. i; to be taken in capsules every four hours, and continued his former mixture. At this time—September 20—his temperature had raised to 101°, his pulse to 110—hard and wiry, and his respiration to 25, though not apparently hurried or short. He was kept day and night on this treatment till September 24, and though taking one-eighth grain of morphia every four hours, he had slept very uneasily in short naps, frequently crying with pain from spasmodic action of the muscles, occasionally biting his lips and tongue till they bled. After the eighth day of his illness he began to rest better, take longer naps, and was less tormented with the spasmodic action of the muscles; his pulse was more frequent, 120 but soft, and for two nights he had profuse sweats so as to wet his clothing and even the bedclothes. I looked upon this as a subsidence of the acute stage, though there was no amelioration of the rigidity of the muscles, and fewer paroxysms of irregular spasm that had heretofore been present. I now prescribed in capsules: Morphia, 1/8 gr.; ipecac, 1/2 gr.; camph., 1 gr.; sulph. quin., 3 grs.; pulv. assafœtida, 2 grs. These were to be taken every four hours, as before, and continued his bromide mixture, leaving out the verat. virid., and at this time—September 24—I placed a fly-blister two inches wide from the first dorsal vertebræ to the sacrum. Up to this time he had taken very little nourishment except a little chicken soup with rice, which he swallowed with difficulty, and seeing the vital forces flagging, I ordered Carnric's peptonized beef prepared, and every time he took his bromide mixture by injection, he had two fluid ounces of prepared peptonized food at the same time. After he had taken thirty-six grains of quinine in his capsules, I replaced the quinine with one grain of sulph. cinchonidea, and increased the assafœtida so as to fill a No. o capsule. The blister had taken effect the whole length of the spine. This prescription and treatment was rigidly followed during the next four days, up to September 28th, during which time he had slept quietly at night; his colliquative sweats had ceased, and he began to take milk without any difficulty of deglutition; the muscles of his legs began to relax so that he could move them; his temperature had abated to 99°; his pulse had fallen to 90, and he began to ask for food. He was continued on the bromide mixture with his capsules, the same as the last prescription, with the exception of the morphine, of which he was to have one at night, after which he took no medicine till six o'clock in the morning, commencing with the bromide mixture, which he now swallowed without difficulty. This treatment was followed till October 4th, at which time his temperature remained at 99°, his pulse 90, full and soft; his respiration 22, even, deep and regular; his muscles were a little more relaxed, and his appetite fair. I now ordered three capsules a day, the last one at 10 o'clock p. m., containing morphine. The bromide mixture was continued every four hours till October 15th, at which time the muscular rigidity was still more relaxed, the taliques equinus was giving way to limited motion, the rigidity of the abdominal muscles had subsided, oposthotonus was not so pronounced, temperature, pulse and respiration natural and appetite good, but the masseter muscles still too rigid to masticate his food. I now continued him on the bromide mixture four times a day, with one morphine capsule at night, till October 25th, when he was able to walk across the floor, but still showing some remaining stiffness of the muscles; but in every other respect apparently well. Medication was now discontinued, and warm clothing and light exercise was recommended, and light nutritious diet was allowed. It is a singular fact, observed in this case, that, notwithstanding the large amount of the bromide of potass. and ammonium that this boy took in the treatment of this case, there was never, at any time, the least sign of brominism developed in his case, such as great depression, achnœ, boils or abscesses produced.

I have never before seen that amount taken in the same time, without its having produced some one or all of these results; but on reflection I have come to the conclusion that the combination in which it was administered, must have had something to do with the non-appearance of any of the symptoms. We are well aware of the effect of ergot on the vaso-constrictor system of the nerve-centers, causing general capillary contraction, and lessening the caliber of the blood-vessels, and in consequence lessening the amount of blood passing through them, but facilitating or strengthening the current; and may it not be that the powerful effect of the physiostigma in producing sedation of the nerve centers in connection with the specific effect of the ergot, have also had its influence in preventing the appearance of these symptoms. With regard to the therapeutic effects and physiological action of physostigma, it is considered

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that from two to three drops of the fluid extract administered every two or three hours to an adult, till its specific action is observed, is a sufficient dose; yet this boy, only eight years old, took two drops of the fluid extract every four hours, day and night, for twenty-five days, without showing any signs of its lethral action. Although to me this has been a very interesting case, not so much on account of any peculiarity of the symptoms developed in the course of the disease, as the steady progress of its development to its worst stage; and then the stationary condition of the disease, and afterward the slow but steady decline of all the characteristic symptoms to the final perfect recovery of the patient. And now, if any suggestions that I have made prove of any benefit to the younger members of the profession, and put them upon a train of thought that will benefit suffering humanity then my object will have been attained, and I shall not regret having spent my time and labor in reporting this case.

Society Proceedings.

Chicago Medical Society.

A. E. Hoadley, M. D.....*President.*
Junius C. Hoag, M. D.....*Secretary.*
F. A. Holland.....*Stenographer.*

Chicago, November 18, 1889.

Stated meeting. The President, Dr. A. E. Hoadley, in the Chair.

Dr. F. C. Hotz read a paper entitled: *The Extraction of Fragments of Iron from the Vitreous Body with the Magnet.*

The vitreous body of the human eye is an exceedingly sensitive tissue; it is very quickly affected by any disturbance of nutrition, and it is very slow in the repairing of its deranged texture. After any injury, therefore, it is apt to waste away, to shrink and seriously impair the functions of the eye. On account of this great sensitiveness of the vitreous the removal of foreign bodies with forceps, or scoops, which instruments necessarily caused considerable derangement of its texture, was usually followed by so disastrous results that it was seldom attempted, and that the presence of a foreign body in the vitreous was generally regarded as equivalent with the loss of the eye.

It was, therefore, a most happy idea of Dr. McKeown, of Belfast, in 1874, to employ for the extraction of an iron chip a magnetic probe, which, through a scleral incision, was passed slowly into the vitreous down to the foreign body, and the iron attracted by the magnetism was found attached to the probe when this was withdrawn from the eye. As the probe passed in and out over the same route it caused but very slight derangement of the vitreous, and the eye recovered so well that the patient was able again to read small print.

Dr. McKeown's instrument was a simple bar magnet, eight inches long and one-eighth of an inch thick, tapering off to a point at both sides. And, though since then, the ingenuity of man has furnished us with instruments much superior to his, both in power and shape, his merit remains undisputed of having opened a new field for ophthalmic surgery.

There are now two kinds of instruments in use, the *permanent magnet* and the *electro-magnet.*

As an excellent representative of the first kind, I show you here the permanent magnet, constructed by Dr. Gruening, of New York, in 1880, and will describe its construction by the inventor's own words:*

"I joined several magnets into a bundle, thus making a powerful magnetic magazine. * * The two extremities of a number of magnetized steel rods placed parallel to, and at a little distance from each other, are fitted into iron caps, one of which is provided with a delicate point of malleable iron, 32 mm. long, 1 mm. wide and 0.3 mm. thick. This point is powerfully magnetic, sustaining, with ease, a weight of 15 grammes. Chips of iron, weighing from one to 50 centigrammes, when placed into the vitreous of recently enucleated animal eyes, are attracted toward the point at a distance of 1 to 5 mm., and withdrawn with the greatest facility.

When not in use, the point is screwed off, and the magnet placed in an iron frame to preserve its magnetic power.

When we consider that the weight of the particles of iron found in the vitreous body seldom exceed one centigramme, we must admit that Gruening's magnet is certainly powerful enough for the purpose. It has also the advantage of great convenience, for it is light, easy to manipulate, portable, and ready for use at any time and in any place. The only faulty point which has been urged against this instrument is that it is gradually losing power; but, while admitting this fact, I can easily convince you by a *demonstratio ad oculos*, this loss of power is so infinitely small that it can scarcely be appreciated, even after many years. This magnet was bought in 1881, and, as you see, still lifts this key, weighing nearly half an ounce; and then, should the instrument become actually too weak, the steel rods can be remagnetized by any electric company at a very small expense.

In the electro-magnet, as the name indicates, the magnetism is developed by an electric current circling round a piece of malleable iron. Its use, therefore, requires a battery and connecting wires, and its efficiency is entirely dependent on the perfect working of the electric apparatus. All this makes the electro-magnet a more complicated and cumbersome instrument than Gruening's magnet; nor is it as convenient as the latter, because, wherever you wish to use it, you have to have a battery with you. The only thing in its favor is its greater power; but I dare say a fragment of iron which a good Gruening magnet cannot extract from the vitreous, will neither be brought out by the more powerful electro-magnet.

I am free to make this assertion, upon the ground that the electro-magnet has proved a failure in the hands of other surgeons under precisely the same conditions under which I was unable to extract the small particle of iron with a Gruening magnet in the following case: *Fragment of iron, weighing two milligrammes, in the vitreous one week. vitreous cloudy, but iron visible; magnet failed; eye enucleated.*

The bit of iron had entered the eye by the sclero-corneal border, and without wounding the lens, had made its way into the vitreous. At the time of the examination, one week after the accident, the eye was considerably inflamed, but still could count fingers;

*N. Y. Med. Record, May 1, 1880.

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the pupil readily dilated under atropine and the lens was quite clear; the vitreous was hazy, the obscuration being decidedly more pronounced on the temporal than on the nasal side; and in the denser temporal cloud a bright shining body could be seen with the ophthalmoscope. An incision was made through the tunics of the eyeball below the external rectus muscle and the point of Gruening's magnet was introduced in the direction where I had located the iron scale. But repeated efforts with the magnet were unsuccessful and finally I had to enucleate the eye. Immediately after enucleation I removed the cornea, iris and lens, being careful not to disturb the vitreous, and I could trace the track the magnet had left in the vitreous, from the scleral incision straight on to the foreign body, a minute scale of iron. It was, therefore, evident the point of the magnet had undoubtedly been in contact with the iron fragment; but why then did it not bring it out? This question was answered by the following experiment: I again introduced the magnet through the scleral incision and slowly passed it along the visible tract in the vitreous toward the foreign body; and when it was yet one millim. from the iron this jumped and clung to the point of the magnet; and when, now, the latter was slowly withdrawn the iron followed it for a distance of two or three millim.; but then it suddenly sprang back to its former place as if forcibly jerked back by an elastic string. This experiment was repeated several times and always with the same result. The whole vitreous was opalescent, but around the metallic scale it was streaked with white fibrinous strings which held the foreign body so firmly within their grasp, that when I tried to remove it with the point of a scalpel the whole vitreous was lifted up, and it required considerable traction to break these resisting bands. It is obvious, that against such resistance, any magnet would have been powerless.

Under much more favorable conditions, and with very good results, was the magnet employed in the following two cases:

Chip of Steel, weighing 9 milligrams, in the vitreous, 24 hours; magnet successful; good vision restored.

The steel entered through the sclera 6 millim. from the nasal margin of the cornea, and could be plainly seen with the ophthalmoscope in the center of the vitreous. The small wound in the sclera was enlarged, the point of Gruening's magnet introduced in the proper direction, and on the second attempt the chip of steel was brought out. The conjunctiva was closed over the scleral wound by a fine silk suture, and both eyes were bandaged for five days. The recovery was very rapid, and one month later the sight was almost normal.

A scale of iron, weighing 3 milligrammes, in the vitreous ten days; magnet successful; eye recovering with traumatic cataract.

This case is remarkable for the unusual tolerance shown by the eye to the presence of the foreign body in the vitreous, inasmuch as after ten days there were no signs of inflammation. The small scale of iron had entered through the cornea and made its way through the temporal portion of iris and lens into the vitreous, where it could be seen as a bright shining body, though the lens was already partly opaque. It was successfully extracted with the electro-magnet through a scleral incision, and the eye made a quick recovery, but the lens, of course, became entirely opaque.

It is evident the operation promises the best results if it is undertaken at a very early period, before the iron has been enveloped in a dense exudate, and before the lens, or the vitreous, or both, have become so cloudy as to render an ophthalmoscopic examination impossible. You have seen that the movableness of the iron fragment is an indispensable condition for the success of the magnet operation; and another condition almost as essential is this, that the foreign body can be seen, or at least located with reasonable accuracy. For if we do not know its location in the vitreous we are truly and literally fishing in the dark, and trusting to good luck to find it. But "luck" is an element we should not reckon with in surgical operations. In 33 cases, where the fragments could not be seen in the vitreous, and the surgeons "went it blind," and for "luck," the iron was extracted in 14 only, while the operation was successful in 13 out of 15 cases in which the foreign body could be seen; and the two pieces which could not be extracted were found to be embedded in the retina.

But before we decide upon the magnet operation, we have not only to consider the question whether the chances are favorable for the extraction, but we should also consider the far more important question whether we have good and sufficient reason to believe that the removal of the foreign body will save the eye. I, for my part at least, have always taken this position, that the operation is not performed for the purpose of proving the possibility of removing particles of iron or steel from the vitreous, but that its ultimate aim is the preservation of the eye, either as an organ of vision, or at least for its cosmetic value. For every one would rather keep his own eye, though it be blind, than wear an artificial eye. Always acting on this principle, that the operation was to benefit the patient, I could never persuade myself to undertake it on an eye in which the lesion was so serious, or the inflammation induced by the foreign body so violent and extensive that I was convinced a disfigured and atrophic eyeball would be the inevitable result, even should I succeed in extracting the particle of iron. What satisfaction can it be to the patient to know the iron was successfully extracted with the magnet, if his eye does not recover, or has to be enucleated soon afterward for fear it would cause sympathetic inflammation of the other eye? Is it not more rational, is it not far better for the patient as well as the surgeon, under these circumstances, to abstain from the magnet extraction, and to remove the eyeball at once?

We have already learned the magnet operation is not always successful; we have seen it fail to extract the iron or steel in 21 out of 48 cases, which I found reported in the journals. But if now we examine the reports of the 27 successful extractions, in order to find out how many patients received a lasting benefit, and what the condition of those eyes was which were actually saved by the operation, we receive the following information:

In 6 cases the operation was done very soon after the accident, before inflammation had set in, and all six eyes recovered. Of 13 eyes which showed a moderate degree of inflammation and more or less haziness of the vitreous, 10 were saved; but of 8 eyes with violent inflammation, and cloudiness of the vit-

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reous, none could be saved—they all had to be enucleated, because the iridochoriditis continued, although the foreign body had been removed.

These results sustain my opinion of the impropriety of operating on an eye in the advanced stage of inflammation. But I am well aware these views are not shared by all surgeons. For among those 48 cases in which the magnet had been tried I found a goodly number of eyes which manifestly were in a hopeless condition before the operation; eyes with their tunics extensively lacerated; eyes with the vitreous chamber filled with blood, and eyes showing the signs of atrophy, that inevitable consequence of severe traumatic irido-choroiditis.

To operate on such eyes is in my opinion inexcusable, for neither science nor the patient can gain by it. But for some surgeons the presence of a piece of steel or iron in the vitreous seems to be a sufficient indication for the use of the magnet—no matter what condition the eye is in—because in their anxiety to increase the list of their operations they sometimes forget that the welfare of the patient should always take the first rank in all our deliberations and actions.

Dr. W. T. Montgomery. I heartily concur in the position taken by the author of the paper. I do not rise, however, to discuss the paper, but to report a case which I had the fortune to see about ten o'clock this morning. The patient came to my office with a piece of iron in his eye and I found that the iron had been lodged in the eye twenty or thirty minutes. Examining the eye I found a minute perforation of the cornea midway between the center of the cornea and the inner margin, and an opening in the iris about the junction of the middle and inner third of the iris. Vision was considerable impaired, 20-200ths. Looking into the eye I expected, from the relative positions of the wounds in the cornea and iris, that I would find the metal, if at all, near the inner side of the optic disc, but after a careful survey I finally saw very distinctly the chip of metal external to the macula lutea and of course considerably external to the disc. It seemed to be a splinter as much as an eighth of an inch in length, and I expected that it was sticking in the sclerotic. I told the patient of my presumption and warned him of the danger of trying to extract it. I advised a trial of the magnet; he consented, and this afternoon I made an incision just in front of the equator of the globe between the external and superior rectus, making a wound a quarter of an inch long, through which I introduced McIntosh's electro-magnet, and after several efforts was finally rewarded by hearing a distinct and audible click. The bit of metal struck the electrode and it came out without difficulty. I introduced a suture to close up the wound. The operation was done under cocaine without any pain to the patient to speak of. Vision after the operation was about the same as before. What the final result will be I cannot say.

Dr. W. F. Coleman: The subject of electricity, in its application to medicine, etc., has been interesting to me, and I have looked up the literature of the subject. There are one or two points in the paper that I do not quite agree with; for the most part I do heartily agree with so much of the paper as I heard. As to the electro-magnet and the permanent magnet, the author will grant that the electro-magnet is the stronger; therefore I cannot but see that in a certain number of cases we might succeed in extracting a foreign body with the electro-magnet, when we could not succeed with the Gruening magnet. If any one attempted to extract a foreign body that was not visible with Gruening's magnet, I think he would not succeed. I am aware that the author says in that case he would not search for it, but in seven cases in which Knapp searched for foreign bodies in the vitreous, they were not visible, and in four out of the seven he succeeded in extracting the foreign body. The wound recovered by first intention, and the eye was saved for cosmetic purposes at least.

As to the whole subject of extracting foreign bodies I am more conservative than the author. I am very sensitive, indeed, about the possibility of sympathetic opthalmia, and I would sooner sacrifice one hundred blind eyes than leave them in with the risk of sympathetic opthalmia to one patient.

I heartily agree with what the author says about risking the magnet in an eye that is already inflamed; that I should not undertake. I would like to ask the author if he knows how long those eyes were observed which he reports resulted favorably. If much effort has to be made in extracting a foreign body with the magnet, churning up the vitreous, it certainly will produce a disorganized eye, and that is very apt to become a degenerated eye. I have four specimens of eyes which I had to remove on account of degeneration and ossification of the choroid. In my opinion the use of the magnet depends very much on the circumstances of the patient. If I had a patient whose surroundings were such that he had to go to sea, and could not be under the care of a careful surgeon, I should not extract the foreign body with a magnet, even though I was morally certain I could do it successfully, on account of the risk of sympathetic inflammation of the fellow eye. Although the use of the electro-magnet has shown in some cases very brilliant results, I think it has a very limited range of application indeed.

Dr. Robert Tilley. I was very much pleased with the conservative manner in which the author of the paper dealt with the question, and he expressed my views pretty accurately. I would say in reference to the use of the magnet that I certainly have a good deal of faith in it. Of course if our "fancy" runs too high the fault is not with the magnet, but with the "fancy." I am convinced the magnet has a certain use in extracting particles of steel and iron. I was pleased with the position the author took with reference to probing the eye for foreign bodies when one is not absolutely convinced of their presence, and notwithstanding the fact that the ophthalmologist of New York succeeded in finding four pieces that he had previously not been able to see, and extracted them, I still should be conservative relative to the introduction of the magnet into the body of the eye in order to extract something that I had not had an ocular demstration was there. Relative to the choice of magnets, namely, the electro-magnet and that exhibited as Gruening's, I should certainly give the preference to the electro-magnet.

I should like to refer to a case that came under my own observation the early part of this year, principally on account of the fact that some of these cases are involved in a large amount of difficulty, no matter how eager the practitioner may be to do his duty and at the same time to do justice to all concerned. I may say that perhaps it scarcely comes under consid-

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eration, properly speaking, because the doctor's paper has reference only to foreign bodies in the vitreous. Now under those circumstances foreign bodies lodged in the sclera and retina are, perhaps, scarcely subjects for discussion, yet at the same time they are so nearly allied that I may be allowed to refer to this individual case. The case was that of a young lad, a minor, who came to me about five or six hours after a piece of iron had flown into the eye. The entrance of the object was clearly marked at the corneo-scleral junction, at the nasal side of the cornea. It had passed through the marginal part of the iris, and with the ophthalmoscope was clearly visible in the interior of the eye, in the retina itself, about midway between the equator and the anterior border of the sclera. He said he had no pain, it was giving him no inconvenience except that the vision was considerably blurred. The case was somewhat difficult in my estimation, in this respect. The lad had no parents here; he was the son of some official on one of the railroads, and as he was camplaining of no pain and the vision was practically good, the lens was not disturbed. It was a question in my mind as to what was the proper thing to do; whether it was the proper thing under these circumstances to advocate strongly an incision into the eyeball—it would have been impossible, in my judgment to have removed it through the opening which it made in entering—or to allow it to remain. I consulted the surgeon of the railroad for which the boy was working, and it was concluded that under the circumstances, it being impossible to communicate with his father by telegram, to send him to his father in order that he might adopt such measures as he thought proper. The boy was sent East and went to an ophthalmic institution in New York, where, according to his account, they made some effort to remove the foreign body but did not succeed. I have seen him recently, and he still has vision to the extent that he can count fingers at ten or fifteen feet and can see large objects close at hand, but the vision is considerably impaired. The foreign body is still there; there is a small amount of discoloration of the iris, but in other respects the eyeball is perfect in appearance, and no one but himself is conscious of his peculiarity. In reflecting over the matter I am still satisfied the conservative position I took under the circumstances was the correct one.

Dr. Elliott Colburn: Mr. President—I do not know that I have anything to add. I was pleased and instructed by the Doctor's paper. I think the question of removing foreign bodies is one of great interest to ophthalmic surgeons. I have seen a number of cases in the last few years; and I can recall five or six where foreign bodies were lodged on the retina, that is, they were impinged on the retina and projected into the vitreous, where there has been no unpleasant reaction.

In one case that I saw in the Infirmary, where a foreign body passed through the lens and was lodged in the retina, projecting into the vitreous, and was allowed to remain there. I saw the man nearly a year subsequently, and the foreign body was as bright and gave as clear a metallic luster as when it entered the eye, and there had never been any unpleasant symptoms. I can recall cases where foreign bodies have lodged in the vitreous, and where the course of entrance has been by a somewhat different path; that is, through the margin of the iris and the ciliary body, wounding those bodies to some extent, not terminating so favorably. Now, when foreign bodies enter by this path, my experience has been that the eye is in considerable danger, and it is always a question with me, even though I may be able to remove the foreign body and the vision may be good in that eye, whether it is a safe organ to be left in its position.

I can recall two or three cases, one dating back two or three years, where a bit of gun cap was blown into the eye and lodged in the vitreous just behind the ciliary body. It was removed by a surgeon in the mountains, and the patient returned to Chicago; he had been on a hunting expedition. I saw him some two or three weeks after the body had been removed and the pupil was occluded, a little red zone remaining around the wound of entrance. I saw him about two months subsequently and there was a decided increase in the zone, and the other eye had begun to show unpleasant symptoms. I referred him for consolation to Prof. Holmes, and he advised, with myself, the immediate removal of the injured eye. The man hesitated some little time and the vision in the fellow eye became still lower, and finally he consented to the removal of the eye. The vision in the uninjured eye gradually improved, and he has a very fair organ now, but subject to spells of congestion. The retina will at times become congested, the vitreous will be, not exactly clouded, but a change can be seen in its transparency.

I can recall one case in which the magnet has been used with success and similar result. In one case coming into my hands recently the foreign body entered from the nasal side, passed through the lens and lodged just in the sclerotic in the region of the ciliary body and under the rectus muscle. I raised the muscle, made a tenotomy, turned the eyeball outward and removed the foreign body. Everything was done with strict cleanliness, and under as perfect aseptic conditions as possible, and yet the track of the foreign body became infected. The wound healed kindly, but in a short time schleritis developed and we were obliged to remove the eye. In this case the period between the time of the injury and the time of removal was three and a half months.

I am afraid of a foreign body in the eye; afraid to leave it there, and afraid to leave the eye there after it has wounded the ciliary region, or wounded the iris, more so than when it has passed through the vitreous and lens alone.

The most serious part of the question is not with what instrument shall I remove the foreign body, but *shall I remove it with or without removing the eye also.*

If the body is iron, and can be seen, the magnet is a great aid; if the vitreous body is clouded the magnet greatly increases the chance of finding it.

Dr. F. C. Hotz in closing the discussion, said: Mr. President, I am very much obliged for the kind criticism my paper has received by the majority of the gentlemen who have discussed it, and I am more than obliged to the gentleman who has spoken against it; for though he started out with saying that he did not concur with the opinions expressed by the essayist, he wound up by giving me an endorsement greater than I expected to receive. The key-note of my paper is given in the opening sentences, when I pointed out the great sensitiveness of the tissue called the vitreous body; this gives the warning signal not to be too rash in meddling with it and not to expect too

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much of any operation, slight as the disturbance with an instrument may be. When the gentleman criticised my remarks in regard to the doubtfulness of fishing for a foreign body in the vitreous when we do not see it, when we do not know where it is located, and referred to some cases where a surgeon succeeded in such extractions, he must remember that I do not question the possibility of once in a while getting out the foreign body, but I do question the propriety of operating under those circumstances, and my reason is the same point the gentleman emphasizes so strongly, to-wit: that by going into the vitreous in one direction and the other; stirring up that tissue we derange its whole texture so much that we may pretty surely expect the eye will be lost even if the foreign body is found and extracted.

To show that this is not always the case, Dr. Coleman referred to Dr. Knopp's four cases of successful extraction of invisible pieces with recovery. It is true all four eyes are reported as recovered; but three cases were under observation but a few weeks, and the one eye which was seen after one year, was decidedly shrunken. Now, I should neither regard a case as successfully recovered if the eye is atrophied, nor should I report eyes as recovered if I discharged the cases a few weeks after this operation and never had any opportunity of seeing them later. For it is more likely that all these eyes became atrophied in the course of a year than that they remained well. So much is sure, cases like these cannot disprove my views.

My conservative position is indorsed by all those who have spoken to the paper, who have had some experience in the matter, and I am glad of it; for the object of this paper was not to report a few cases and the small number of cases I have to report, only those three, shows that I have been very conservative, otherwise I could have reported a great number, but so many failures, of course. The object of my paper was simply this: to look over the field and lay before the members of this society the actual possibilities of this magnet operation; for, as it is always with a new operation, and this is comparatively recent operative procedure, we usually receive, during the first year of its introduction, a number of permature reports so that we get the impression that almost anything can be accomplished with the operation, and that to extract from the vitreous a piece of iron fastened in the sclerotic, was as easy and harmless as pulling out a tack with a hammer. I thought it was time to review the matter in an impartial spirit and show how limited the possibilities are, not as to the possibility of removing the steel or iron, but limited as to the final success, that is the permanent preservation of the eye. Many eyes seem to recover at first, but if you watch your cases for some time, you may have occasion to change your opinion and to make another mark in the record book, with red ink, saying the eye is lost.

Dr. A. E. Hoadley read a paper on *A Rational Treatment for Diphtheria.*

NOTE.—This paper was read before the Chicago Medical Society under the title of "An Infallible Treatment for Diphtheria." The title was about the only part of the paper that received attention. Its condemnation was unqualified and vigorous, and almost universal. It was very apparent that the society was not willing to distinguish between diphtheria and the complications and sequalæ, for which reason it was thought best to change the title.—AUTHOR.

The plan of treatment to which I wish to call attention has in my hands for years been uniformly successful and in every instance where thoroughly practiced, perfectly satisfactory in its results. Where failure has been recorded it has been no fault of the plan of treatment, but of some detail of its administration. I have come to regard it after years of experience, as infallible. Here let me state that in speaking of the treatment of diphtheria, I have no reference whatever to the *complications and sequalæ*, and when I say diphtheria, I refer to the white pellicle or substance that grows in the throat upon the surface of the mucous membrane. I mean that, and nothing more. In advocating a treatment for this condition, the plan and the remedies and general condition of the patient are comprehended. No one remedy is advocated to the exclusion of any others that may have equal merit. The treatment is based on scientific principles, as far as science can at present apply to diphtheria. Such remedies are used as will by their known therapeutic effects meet the required indications. If the method of its use be correct as to time, quantity, concentration and combination, there can be no doubt about the results.

You say that if I can do this for diphtheria, that I must have settled the very mixed and much-discussed question of its etiology. To which I make answer that I have settled that question to my own satisfaction, but can only offer you circumstantial evidence in proof of the correctness of my views—namely, that when I apply treatment in accordance with those views it is reliable. It has occasionally happened that I thought I had applied the treatment and find later, perhaps too late, that I had not, or that it was deficient in some detail; some circumstance over which I had at the time no control had rendered the treatment futile. Such accidents as faulty judgment, negligence, forgetfulness, misunderstanding, inability to carry out the details of the treatment from any cause whatever, is no fault of the plan of treatment if for such reason it fails. It is simply this: The treatment that might have been successful was not applied. Therefore, with implicit confidence in the plan of treatment—a confidence born of years of experience, in any given case it is only necessary to see that it be instituted in a manner that no detail shall be omitted or misunderstood to be sure that success will be the inevitable result.

In regard to the etiology of diphtheria. From the literature on the subject, from my own observations, verified by the uniform success of my plan of treatment, I conclude that diphtheria is in all cases primarily local, and for obvious reasons, in the great majority of cases it commences in the throat. It consists invariably of mixed micro-organisms; but there is no specific organism; and there is no organism that can constantly be found in diphtheria except the same can normally be found in the mouth. That diphtheria does exist in infinite varieties, determined by the combinations of the organisms composing it.

That the combinations of organisms determine the amount and quantity of the alkaloidal poisons produced. That some of the organisms necessary to the formation of diphtheria exist normally in the mouth and are harmless. That these organisms can be transmitted by contact from patient to patient as mixed organisms, and as such propagate and form new combinations more or less irritant. That single

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varieties of organisms may gain access to a patient's throat and there form combinations of varying qualities. That these organisms may exist in the throat for some time, even days, in quantities sufficient to produce constitutional symptoms without being visible even upon the surface of the tonsil, and, certainly so, if they occupy the follicles which is common. That the constitutional symptoms are due to the absorption of ptomaines that have been elaborated in the diphtheritic mass; that the subsequent changes in the blood and tissues, especially the nervous system, are due to the more or less direct effect of the ptomaines; that the ptomaines are given off from the free surface of the diptheritic patch, and find their way into the system by means of the alimentary canal and lungs in far greater abundance than those absorbed at the seat of the diphtheria; that the quality and quantity of the ptomaines vary greatly, according to the particular (unclassified) quality of diphtheria present; that the infectiousness of diphtheria is in proportion to the energy and toxic power of the ptomaines, although the ptomaines themselves do not transmit the disease; that this disease has no period of incubation or latent stage; that one attack of the disease gives no immunity; that abscesses, as a complication, always depend upon the absorption of pus microbes. Diphtheria does not predispose to suppuration.

Of the foregoing propositions, some are already accepted by the profession, and others are not, and possibly never will be, or, should they all be accepted, they may not be capable of demonstration to the extent herein indicated. Be that as it may, it is upon these principles that the treatment is founded. Although, as a matter of fact, the treatment was adopted years ago, and has, so to speak, formulated the principles whith have recently taken definite shape in my own mind. The harmony of these principles with the treatment that was adopted so many years ago convinces me that they are in the main correct.

Twelve or thirteen years ago I became thoroughly disgusted with the then standard gargle for all cases of sore throat, viz.: *the chlorate of potash solution, with tincture of iron.* I could never prescribe it without trouble. The patients would either refuse to use it, or, what amounted to the same thing, would use it but two or three times a day. Then, the serious effects upon the teeth, and so forth, were such that I decided to adopt some other local application to take its place; and, after some study and research, I decided upon the following formula, and declared that I would never use the iron and potash gargle again. The formula, as adopted at that time, and which I have never found necessary to change except in minor respects, is as follows:

℞. Pot. chlor..... ℥i.
Tr. myrrh..... ℥iii.
Ac. carb.....gtt. iv.
Mel. des..... ℥iv.
Aqua *ad* q. s..... ℥iv. M. ft. mistura.
S. Fifteen drops every half hour.

The first dose or two of this medicine is quite bitter, but very soon the slight amount of carbolic acid present dulls the sense of taste, and it is no longer objectionable. The myrrh is the antiseptic and disinfectant; it is soothing, stimulant, slightly astringent, and tonic to the mucous membrane, and it can be used freely in the nasal passages, in the throat, and can be inhaled into the lungs every fifteen minutes for days with perfect safety. Aside from its recognized medicinal properties, it has unquestionably the power to completely suspend the elaboration of ptomaines in a diphtheritic mass; and here let me say that I have no doubt but that there are a great many other remedies that can do the same thing, but as myrrh has stood the test for years and given perfect satisfaction, I want no better, and, therefore, I want no other. The only mission of carbolic acid is to relieve pain and soreness, which it does admirably in the throat, if this weak solution is given as often as once in thirty minutes, but not otherwise. When there is a desire to dissolve diphtheritic membrane, or if the mixture smarts unpleasantly in the mouth or throat, then the solution of chlorate of potash should be changed for lime water. This more readily dissolves the membrane, and is also painless after the potash has become irritative. In place of the honey I have often used glycerine, and many times druggists have used molasses and syrup for me as a substitute, but I prefer the honey. When this formula is properly compounded of good materials, it gives a mixture of a light, creamy brown color, very soft in tint, and by these qualities of color you may recognize the quality of the medicine. This formula, as prepared by different druggists, varies very much, and as the color and softness of texture of color varies, so does it vary from the best quality. Some druggists will pour the tincture myrrh into the bottle without any effort to form a good mixture, and the result is that the gum myrrh is deposited in reddish brown masses around the upper end of the bottle; then, of course, the mixture is worthless. Then, again, some druggists, desirous of making an elegant mixture, will filter and of course remove all of the myrrh except the odor, and render the medicine practically inert.

In the treatment of recent cases of diphtheria of moderately severe type, where there is marked constitutional symptoms, with a well-developed and goodly patch of exudate, as it is called, upon both sides of the throat, so long as it has not already extended so high that its upper limit is out of sight, or involved the larynx below, and with the patient old enough to do with certainty as required, it is only necessary to order the mistura myrrhac. cum pot. chlor. to be given in 15-drop doses every half hour, day and night, asleep or awake, until the diphtheria falls off, and the patient is well. The medicine should be retained in the throat each time as long as possible, and then swallowed, and occasionally, say every hour or two, a full teaspoonful of the medicine should be gargled thoroughly and spat out. If the child is very young, and the patches of diphtheria small, and in such a position that they will certainly be bathed each time the remedy is swallowed, then the fifteen drops every half hour, day and night, asleep or awake, will be quite sufficient. Should the larynx be threatened or involved, or the diphtheria extend up behind the palate, or the nasal passages be involved or likely to be involved, it will be necessary to use the medicine through the nose and mouth by means of the atomizer every half hour, day and night; and if the larynx is involved, the spray must be inhaled at each administration.

The best atomizer at present in the market, to my knowledge, is the Davidson No. 59. It will deliver a coarse and abundant spray of this remedy, which is

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quite essential to its thorough application. In the more severe cases, and especially if they are likely to have diphtheria in the throat for three or four days, it is probably advantageous to give tincture of iron in moderate doses every three hours, together with judicious feeding. No other remedies will be necessary. Just where the pseudo-membrane exists at the time of the administration of the first dose of medicine, there it will stay. Not one particle of advance in the spread of the disease will take place after the first thorough application, provided the applications be repeated at intervals not exceeding thirty minutes; forty-five minutes will not do; thirty minutes is the longest interval that may be allowed to elapse while diphtheria exists. The patch will then begin to grow thicker and thicker, and become undermined at its margins, all surrounding inflammation will disappear rapidly, and, in the average case, the diphtheria, if seen early and thoroughly treated, will fall off in mass, leaving the mucous membrane quite clean and perfectly well in appearance. Within an hour or two after the treatment is commenced, the patient will be greatly relieved, and in eight or ten hours the temperature is usually about normal, although the diphtheria may appear as formidable as ever. The moderately severe case where the false membrane is forming rapidly, and great constitutional disturbance, rarely requires more than forty-eight hours for the complete removal of the disease, and very frequently twelve hours are sufficient. It is to be understood that these results are to be expected in cases that are seen early. It must also be understood that it is not the object of the treatment to remove primarily the membrane. The primary effect is to prevent the further extension of the disease, and the formation of the deadly ptomaines. The diphtheritic mass is rendered inert, and can do no harm, so long as it is continually bathed upon all sides by the medicine, unless by the volume it shuts off the post-nasal space, or other spaces, and then, in that direction, spread, and the new extension produces poison, the absorption of which will be disastrous. To obviate such a contingency in the rapidly forming masses, the spray should be freely used through the nostrils. In severe cases the thick masses should be broken down with the finger very carefully, lest the mucous membrane be injured and invite the entrance of pus microbes. After breaking a large mass, the atomizer should be used very thoroughly, and repeated every ten minutes for five or six times, and the myrrh mixture should contain bichloride of mercury, 1 to 3000.

Malignant cases, or such cases as are expected to be malignant, must be treated in accordance with their severity or expected severity. The iron should be given in maximum doses, and the myrrh mixture used every fifteen minutes, and precede the attack by its administration every half hour, where possible, or, in other words, every patient that is likely to contract the disease should be placed under treatment. The results will be, in the majority of the cases, no attack, and those cases that are developed while under treatment, you may rest assured that the treatment has been slack; that there have been intervals of more than a half hour between the doses of myrrh mixture.

It is difficult to have patients that are not sick get the treatment day and night, but where they have so had the treatment I believe it impossible for the disease to develop, no matter of what type. Water is an infallible agent with which to control fire, still if you set fire to a keg of powder you would hardly expect to put it out with water, but by using the water before the fire you might control or prevent it. So with these fearfully malignant cases of diphtheria, where they cause death in from twenty-four to thirty-six hours if they become developed, we can hardly expect to cure them by any means. Our best hope with these cases is in prevention. To do this the treatment must be instituted and persevered in with the same regularity by means of the atomizer, as in a case already developed. I have many times tested the prophylactic power of this remedy, and I have yet to see a case develop against the half-hourly application of the myrrh mixture. Hourly applications to the throat may protect, but it is not reliable. I regard outward applications of every kind positively detrimental in the treatment of diphtheria. I have never allowed them to be used, and when I find a patient with them they are immediately removed. I am opposed to outward applications as a whole on general principles in all sorts of throat troubles, for I am sure that they cause more suffering than they ever relieve, and more diseases than they ever cure. You may have this wholesale statement for what it is worth.

The treatment of complications is another thing. I wish to emphasize the fact (and I believe it is a fact) that no so-called remedy or measure can occupy neutral ground. It is capable of doing good, or else it will do harm. I do not believe in the old woman's reason for using a remedy, that "it can do no harm." Everything in the way of treatment should be excluded that is not positively known to be of benefit. I have repeatedly been called to children suffering with diphtheria where the means employed to combat the disease were in themselves sufficient to cause the death of the patient, had the diphtheria been left out of the question. Swabbing, painting, steaming, spraying, powdering, purging and puking, internal medication, poulticing, packing—hot and cold, wet and dry; lubricating, irritating, vesicating, fumigating and suffocating, the outward medication, and it is only a question of time in these cases, when the most robust will succumb. I have been asked to suggest after the above means severally and collectively, had been tried and the patient's strength exhausted as much by the misguided energy of the treatment as by the disease, "What could I suggest?" Another means by which the patient could be further tortured, only to be soon superseded by still another. No; I advise the withdrawal of the allied forces and leave the disease to fight it in single-handed combat, that the patient's last moments may be a little less terrible. These remarks may seem to many of you uncalled for, but I can assure you that they will strike home to many a good physician and set him to thinking.

I have had physicians declare to me that they had tried my alleged treatment, and that it did not do the least bit of good. The reason that it did not do any good in their cases, is because they saw fit to use the remedies in larger doses and less often, and it was not important to disurb the patient if it could only sleep, forgetting that diphtheria grows best while the patient sleeps. Then again it would not cause the diphtheria to disappear like magic, nor would it

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reduce the temperature against the combined influences of diphtheria, poultices, packs and an elevated temperature saturated with the same poisonous vapor, or perhaps while it was sweltering in a lime-steam.

I wish now to cite a few cases in exemplification of the plan of treatment that I have dared to intimate as infallible.

Case 1. George K., a lad of 5 years, was brought to my office by his mother at 11 o'clock a. m. He was taken ill in the preceding night with chills, high fever and sore throat. An examination revealed a temperature of 103½°, very rapid pulse, fauces dark red and seemed very sore. The child appeared to be very sick. I made a diagnosis of diphtheria, although there was none to be seen, and ordered the myrrh mixture to be given every half hour, all day and night. Before bedtime however the child was, as the mother stated, quite well—throat and all—and the remedy was discontinued. In the night the child was again attacked with headache, chills, fever and sore throat, and the remedy was indifferently resumed, being given occasionally until morning, when I was summoned. On arriving I found a much worse condition than on the previous forenoon, for both lateral aspects of the throat were invested with diphtheria, and the constitutional disturbance was severe. This was 8 a. m. The medicine was, with emphasis ordered to be given in fifteen-drop doses every twenty minutes all day and all night, and until I again saw the case. On the following morning I saw the boy and have every reason to believe that my orders were obeyed, for the child appeared to be perfectly well, and on inspection the throat gave no evidence that he had ever been sick. He was ordered to have the medicine every half hour through that day and night, and then discontinued. The myrrh mixture was the only remedy used in this case. There were other children, but no other cases. They were all required to take the medicine while in the house, which may have protected them. This is a good illustration of what would be called a constitutional case with a local manifestation, inasmuch as there was no diphtheria in the throat for twenty-four hours at least, subsequent to the first constitutional manifestation, and yet by local treatment it was promptly controlled during a few hours on the first day, and then after a renewed attack was completely cured on the second day. With these facts before me I am constrained to believe the disease a local one.

Case 2. Laura F., 3½ years, developed rapidly a very severe form of the disease. I saw the case in the evening, twelve hours after the initial symptoms. The throat was the seat of a very angry and apparently painful inflammation. The fauces were almost entirely covered with diphtheria. The tonsils were so large that they together with the diphtheria, almost occluded the passage. The constitutional symptoms were in keeping with this, very severe, and you might think it was unpromising condition of the throat since the patient was so young. Myrrh mixture was the only medicine used. The atomizer was not used, although it was impossible to see the limit of the exudate. Fifteen drops every half hour day and night, whether asleep or awake for thirty-eight hours, cleaned the throat apparently, dissipated the inflammation and restored the child to apparent health. Ordered the medicine continued through the balance of the day and all night, and if everything seemed well in the morning, to continue for a day and night every hour.

In the forenoon of the next day I was sent for and on arriving I was informed, after some questioning, that relentless slumber had taken possession of the attendants and the medicine had been omitted for two or three hours during the night, and that as a result the child appeared quite as sick as on my previous visit. The diphtheria was even more extensive, although the inflammation and swelling were also severe. The treatment, of course, was resumed and given a little oftener and persevered with for about forty-eight hours before the throat was again clear. The patient, during the greater part of this time, had a low temperature and was quite comfortable. The medicine was continued every half hour for forty-eight hours longer, lest the disease should again recur. It is no hardship to a child to be required to swallow medicine every half hour; if they are sleepy they are hardly conscious of the disturbance. The atomizer is the greatest annoyance to the little sufferers, still they sleep half an hour at a time, which is quite sufficient. I think that the lesson taught in this case is that diphtheria is a local disease.

Case 3. Effie H., a girl of eight years, had a severe type of the disease, and the fauces were lined with diphtheria before I saw her at 9 a. m. The medicine was ordered given by the mouth in fifteen drop doses every half hour, and in the evening of the same day she was very comfortable, temperature nearly normal and still her throat was lined with diphtheria, in extent exactly equal to what it was when she began the use of the medicine in the morning, but the patches were much thicker and whiter. On the following morning they were less extensive, beginning to be ragged, and where their continuity was undisturbed were from one-eighth to three-sixteenths of an inch thick. In the evening, thirty-six hours after treatment commenced, there were only here and there small ragged patches of the diphtheria left. The mother was cautioned that during the night she must under no circumstances omit the medicine, and she gave it regularly every half hour until five o'clock a. m., when she fell asleep and gave the next dose at 6:30, thus missing, as she affirmed, but two doses, and she was a lady of whose truthfulness I had no doubt. Be that as it may, the interval of omission was a very short one. During this brief interval the disease was again in possession, spreading over the entire surface before involved, and extending up behind the soft palate out of sight, and down to the larnyx was a thin film of diphtheria and the constitutional symptoms were very severe at 9 a. m., the time of my visit. The atomizer was now called into use and for three or four hours was used every fifteen minutes, when there was marked improvement again in the constitutional condition, and the time extended to intervals of half an hour and continued for some time after the throat was again clear, which required about forty-eight hours. Tincture of iron, ten drops every three hours, was used with this case from the commencement, as there seemed to be an indication for it in the child's previous habit. This case so briefly noticed is so interesting from the fact that it was very rapid in its development, both primarily and secondarily, and in the relapse the larnyx was threatened and the nasal cavity invaded in a remarkably short space of time—one hour and a half. It is also interesting to observe

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with what wonderful promptness it was controlled with the atomizer.

Case 4 and 5. Hilda H., a girl, age 7 years, contracted malignant diphtheria from a younger sister of four years, who died of the disease in about forty hours.

It is fair to suppose this the origin, although she was attacked but a few hours later than her sister. A baby of two years happened to be, or was at the outbreak of the disease, put away from the house, and so for a few days escaped. These children were under the care of a very competent physician, one who enjoys a very high professional reputation, and justly so. He was faithful in his attendance and earnest in his endeavor to control the dread disease. When the first child died, the physician informed the parents that it was only a question of a few hours before the other child would also die; that it was impossible to control the disease, and that she was fast sinking under its poison. Word was left with a neighbor to have me see the patient. I declined this invitation, stating that if that physician pronounced the case a hopeless one, it would be useless for me to attend. A few hours later, however, I was again summoned by a special messenger, who stated that the physician had retired from the case, and that I was earnestly desired to see the girl before she died. I immediately responded, and, as might be supposed, found the patient in an extreme condition. The first thing that attracted my attention on entering was that restlessness so characteristic of the overwhelming influence of the poison. The child was breathing with difficulty on account of the occlusion of the fauces and pharynx; the head was extended for the purpose, partly, of facilitating respiration, but on removing the wraps from the head and the applications from the neck, another reason was found for the extended head. The neck was badly swollen and of brawny hardness, not particularly tender to the touch. An inspection of the fauces was sickening; an intensely putrid, penetrating and persistent odor overwhelmed me, and I felt inclined to make a hurried retreat. I could not sit down or touch an article in the room, and I never experienced greater relief from something to be dreaded than I did when I again gained the open air. I stayed, however, long enough to order the myrrh mixture to be given in teaspoonful doses for a gargle every half hour, after gargling to be spit out, as I understood that the child was an adept at gargling, and to swallow fifteen drops every half hour in the intervals of gargling.

The next morning the child was very much better, quiet, swelling was subsided, head had assumed the natural position, breathing quite easy. The offensive odor from the throat was entirely gone, although the throat was still full of diphtheria, but now it was white, whereas the day before it was black, probably the effect of the previous applications. The little patient could plainly articulate that she felt first-rate, while on the previous day it was almost impossible for her to form a single word. I now crushed under my finger the prominent masses of diphtheria, some of which came out of her mouth; the rest that were detached were swallowed. This procedure I would not have done on the day before, lest the patient be immediately poisoned to death; but after the masses had been robbed of their ptomaines, or their formation suspended, and those that did exist had been either absorbed, dissipated or neutralized, there was no danger from swallowing it. Immediately after thus gently crushing the diphtheria, the child was required to gargle a solution of bichloride 1-2000 every fifteen minutes for four times, and then continue with the myrrh mixture alone. Tincture of iron was administered in ten-drop doses every three hours.

No further unpleasant symptoms occurred. In about three days the throat was quite well and clean, and no complications of any kind followed. Toward the close of one week from the convalescence of this patient the mother began visiting her baby, who was domiciled with a neighbor under the same roof in another flat, and taking the myrrh mixture during the day as a prophylactic. One night after one of the mother's visits the child was taken very ill, and the good neighbor labored earnestly with the sick child until morning, not for once thinking that it would be proper to give the throat medicine. In the morning the mother was summoned, who in turn summoned me and in the meantime commenced to give the medicine. This child was suffering with malignant diphtheria and no evidence lacking, and still in twenty-four hours there was not a trace of the disease left. The medicine was of course continued for some time to prevent a recurrence. After the medicine was discontinued some three days I think, the child was taken home and again had an attack which was as severe as the first, and recovered as promptly under the use of the myrrh mixture—so I was informed—I did not see the child during the second attack.

In the case of the first patient, although the disease was most malignant and far advanced, still the membrane had not extended in any direction beyond the reach of the medicine as used by gargle, therefore it was possible to immediately stop the process of poisoning and give the child a chance to eliminate, which she promptly took advantage of. I have had quite a number of cases of malignant diphtheria recover under similar circumstances, with similar conditions prior to the commencement of the myrrh mixture, except for the fact that the most of them were given large quantities of whiskey in addition.

Case 6 to 11. This will constitute a group of cases of malignant diphtheria, and be described collectively as far as possible. Mr. and Mrs. B., were the proud possessors of a very interesting family of seven children, embracing twins, and ranging in ages from three to fifteen years. There was but one boy, who was 12 years old, and the only one to escape. The youngest child was the first to contract the disease. It proved to be a malignant form, and she expired within two days. Three other children, the twins aged 10 and the 5-year-old, were simultaneously attacked on the second day. They all give unmistakable evidence that they had contracted the disease in its malignant form. The suddenness of the attack, the rapidity of its development and the energy of its course left no doubt. A Homœopathic physician was in charge until after the death of the first child when he was no doubt greatly relieved by being very courteously retired from the case, and I very reluctantly accepted the responsibility. The treatment prior to my attendance, seemed to have not the slightest influence to retard the onward march of the diphtheria. Permanganate of potash in solution used with the atomizer, was the disinfectant employed. This was used often and thoroughly—every hour I think—but its effect

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upon the disease if any, were so slight that it could not be appreciated. At my first visit, which was some hours after the last visit of the retiring physician, the situation was very striking. They had decided upon a change of physicians. In the interval they had become terror-stricken. They had practically abandoned hope and were indeed like a ship without a helm; yet they went on in a half dazed kind of way with the atomizer and sprayed the face as much as the throat until the faces upon whom they were using it were of a dark bronze color, stained by the permanganate. In one the throat only was involved; in the other two the nasal cavities were already invaded: in one the larynx was involved sufficient to affect the voice.

The constitutional condition in all was alarming. It was a question whether they could recover, even though the poisonous processes were immediately stopped. In two, the youngest and one of the twins, the necks were swelled, full, smooth and boggy; their heads were extended to facilitate respiration. One of the twins seemed to be the worse, as she had nasal pharyngeal, faucial and laryngeal diphtheria with a swelled neck, very restless and obtuse mental condition, with complete inability to swallow. Tincture of iron every three hours, with the myrrh mixture were the only remedies used. The alcohol was withdrawn, the applications removed, and the parents instructed to use the myrrh mixture containing bichloride 1-4,000 with the atomizer through the nose and mouth every fifteen minutes for the first three hours, when the bichloride should be withdrawn and the remedy continued every twenty minutes, all night, and the twin with the laryngeal complication should each time inhale the spray twice at least into the lungs. This required unremitting toil on the part of the attendants, but it was faithfully attended to, and in the morning, every one, patients and attendants, were willing to declare that there had been a wonderful improvement. But now an accident happened that nearly cost the three lives and the parents were again frantic. The atomizer that they had been using was inferior and they thought to get Davidson's but were given some other make and this instrument was soon broken, and on returning to the former instrument it could not be made to work. During the interval of an hour or two, the medicine was administered in fifteen drops every fifteen or twenty minutes, but during this short delay it was apparent that something terrible was going on with the children. They were rapidly growing worse. This was appreciated by the parents and it was almost impossible to again organize the system of treatment. The five year old child's nose became occluded and it was with great difficulty that it was again opened. For this purpose the lime water was substituted for the chlorate of potash solution. In another day everything was very satisfactory. The children were taking their food without difficulty, except the twin who was troubled with fluids regurgitating through the nose. They were playing with pennies and jacks as though nothing had ever been the matter. The older children did all they could to facilitate and render the treatment thorough, but the small child would invariably draw down the ala of the nose, rendering the small meatus nearly impervious, and during the night she would in other ways resist the treatment so that it had been, up to this time, a hard fight with her to apply the treatment. The father was the only one that could, without assistance, accomplish it. But there is a limit to human endurance, and after six days and five nights of unremitting attendance, he found it necessary to retire during the sixth night to get a little sleep, leaving the mother and oldest girl on duty. The girl was very much opposed through fear to handle the cases, and the mother assayed to treat the younger child without assistance. In this she failed, but she did not find it out until it was too late to make amends. The nostrils had closed and were not discovered until her husband again came on duty, and even then she stoutly maintained that they were pervious.

At my visit some hours later I made an effort to establish an opening through the nostrils, but soon found this impossible. The entire nasal cavity was blocked full, and the diphtheria was extending into every cell or cavity that was developed in connection with the nose. Treatment was cut off. The disease had barricaded the entrance to treatment, and was master of the situation. Diphtheria never sleeps. The child died in the evening, the direct and unquestionable result of incompetence in the attendant. The twins recovered rapidly; the worst one of the two, although bothered for a few days with regurgitation of fluids through the nose, felt quite well and happy, but rather strangely and inexplicably she retained a patch of diphtheria as large as a nickle in front of the anterior pillar of the fauces on the left side for two or three days after the balance of the throat and nose was well. Finally it fell out, for it left a conical hole fully three-fourths of an inch deep, extending behind the tonsil of that side. This supposed patch of diphtheria proved to be a slough. This surface, as well as the corresponding surface of the opposite side, and the anterior surface of the soft palate was covered when the myrrh treatment was commenced, and all the portions referred to except this were the first to fall off.

It is to be understood that the well children were subjected to the same treatment as a prophylactic, but they only got the medicine during the day; they were allowed to sleep. The second day of my attendance my attention was called to the eight-year-old girl, who was taken violently ill in the night. She had vomited, and when I saw her at 9 a. m., had a temperature of 104, throat very sore, but did not look bad. A small patch of diphtheria on each side was all that could be seen. The treatment was given every half hour, day and night, and in thirty-six hours the throat was clean and the child well. The treatment was continued, however.

The oldest girl, during these days, had two unmistakable attacks, but they were dissipated in a couple of hours by fifteen-minute applications of the myrrh mixture, no membrane ever showing, but each time she developed a temperature; on one occasion it was 101°,

The boy of twelve years took the medicine regularly during the day, was a large part of the time out of doors, and had no symptoms.

The above cases were all of one character, one quality of infection, and unquestionably malignant, and yet the fifteen-minute application of the medicine to the entire surface of the diphtheria promptly stopped it, no matter where it was located or how much there was of it, or at what stage of development. This for years has been the uniform results obtained by the frequent application of the myrrh mixture. The de-

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tail of first importance in the plan of treatment advocated is the application of the remedy to all parts of the surface of the diphtheria; second, the frequency of the application, and if the applications be made in frequency in proportion to the activity of the disease that exists, it cannot spread, no matter of what character; and third, the use of myrrh as the chief remedy, although I believe there are other drugs of a similar nature that might prove quite as efficacious. And finally, the complications that have developed as a result of the diphtheria are in no way influenced by the frequent application of the myrrh mixture to the diphtheria, except to prevent further poisoning. As soon as they can be properly tabulated and perfected, statistics will be presented of cases treated by this method.

Dr. G. K. Dyas. I have some fixed opinions with regard to diphtheria, and such as I have maintained for 30 years. I consider it to be at first, invariably a local disease; secondarily, a constitutional affection affecting the whole system. I maintain that if it be dealt with when at first seen in the fauces, it can be prevented from reaching the larynx and trachea, where it arrives by continuous extension. For this purpose you must see it in its incipiency and must have a docile patient; if so, you can destroy it before it locally descends. Still this may not prevent poisoning the system from absorption of morbid matter, and thus causing death by paralysis of the heart as well as of the muscles, or by renal disease. The great mistake made formerly consisted in viewing diphtheria and croup as one and the same malady, whereas they are essentially different. One is a germ disease, the other is not; one is asthenic, the other sthenic; diphtheria is attended by a low form of fever, croup is an inflammatory disease; croup is attended by an inflammatory condition of the mucous membrane often leaving the subjacent surface simply improved, diphtheria involves the mucous and submucous tissues and even at times the muscular tissues—from the epithelium to the latter, all may be involved. When a portion of the false membrane is examined by the microscope you can see it crowded with micrococci, and should the system be secondarily poisoned you can see innumerable organisms in all the organs, especially in the kidneys. When I published some remarks in reference to this disease some years ago I was induced to do so from the fearful mortality arising from it under the calomel system of treatment. Twenty-one children at that time died in almost immediate succession in this city and in its suburbs. They were all treated as if they had simple membranous croup. But as soon as a more rational mode of treatment was employed, the number of deaths ceased to be in the majority—the greater number recovered. The plan then suggested has until lately been that adopted by practitioners; the destruction of the morbid organisms locally, supporting the patients by wine and liquid nourishment, etc., saturating the system with iron. As adjuvants we employ injections of lime water by the nares and gargle with lime juice.

Dr. Robert Tilley: What I object especially to in the paper is the use of scientific definite words, such as ptomaines, etc., without any attempt to prove the existence of the substances. There was a distinct statement made that this was due to ptomaines, without any attempt whatever to make any demonstration, and that certainly is not to the credit of this society, while our colleagues in different parts of the world are laboring so hard to demonstrate points that they take up, one after another, and are not satisfied to receive a mere statement.

Dr. Henry Gradle: If we scan the treatment of diphtheria, we find that every author has a different treatment; that no two agree, and yet their results are pretty much the same. The only deduction to be drawn is that we know of no treatment for diphtheria; that, like other infectious diseases, it is not amenable to any now known remedial influence. Hence, what is the use of torturing the patient with frequent repetitions of doses that have long ago been recognized as inert? Of course this does not preclude that at some subsequent time a remedy may be discovered; but before such a claim can be accepted, it must be supported by some actual proof.

Dr. L. H. Montgomery: Dr. Hoadley did not give a great many statistics, and I am sure he could report a great many more cases than he did. I would like to know why so many members of this society tonight took the pains to copy this prescription in their note-books, unless they expect to try it. I go around the city to a fair extent, and see considerable of diphtheria and other contagious diseases, and I have heard of this remedy being used, and I know where it has been used in other cases of diphtheria not cited by the author, where they recovered. I am positive that it is an efficacious remedy. I won't pretend to say that it is infallible, but it certainly is the most efficacious and pleasant treatment of any with which I am acquainted or have heard.

Dr. J. R. Brandt. I would say that statistics are as a general rule misleading. I believe it would have been better if several hundred cases had been treated by this method before a report was made. There was one thing that was not brought out in the paper that I should like to have the author's opinion on, *i. e.*, the prodromatic symptoms in diphtheria. In 1881 I discovered that there was sub-normal temperature, irregularity of the heart's action, the loss of an impulse every third, fifth, or seventh; or fourth, seventh, eleventh, etc.; also a palor of the fauces, soft palate and uvula, from twelve to seventy-two hours before any other of the usual signs were exhibited, such as chill temperature or false membrane in the throat. These were among members of families in which there was diphtheria. Since then I order the temperature of all members of a family in which there is diphtheria to be taken every four hours, and when the temperature is sub-normal, begin treatment at once.

Dr. N. H. Pearson. I will only say a few words. It may please Dr. Hoadley to hear that I have used myrrh a good deal, but mostly as a gargle, and the families generally like it and keep it in the house. It is an old remedy. The Bible tells us the king of Egypt used it and sent it to King Solomon—what for I do not know. I, for my part consider it a very valuable remedy in the present, adynamic type of diphtheria, where stimulating antiseptics are strongly indicated and most successful too.

Dr. A. J. Ochsner. This paper reminds me very much of some statistics I saw in a medical journal*

* NOTE. *Berliner Klinische, Wochenschrift*, February 18 and 25, 1889, by Dr. Henning, of Koningsberg. Ten thousand and fifty-four cases treated during ten years. Death rate in cases suffering from diphtheria alone, $^{9}/_{10}$ per cent; in counting also cases complicated with scarlatina $2^{7}/_{10}$ per cent.

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last February, of over 1,000 cases of diphtheria in which the death rate was less than 3 per cent. They were treated under the direction of the government physician in Germany, exclusively by the administration of lime-water. The patients had to gargle with lime-water every fifteen minutes until the membranes were removed; and if there was nasal complication lime-water was applied by irrigation every fifteen minutes. Infants that could not gargle were compelled to drink lime-water every fifteen minutes day and night until the membranes disappeared. The author also applies ice-bags externally, but lays no particular weight on this part of the treatment. With this treatment these cases—and they were all cases of undoubted diphtheria—cases of pharyngitis were not counted, according to these statistics—showed a death rate of less than 3 per cent, which is more than seven times less than death rates usually are. Prof. Hoadley makes use of the same principle, and his success is probably due, as he states, to the frequency of the application.

Items.

Doctor—"How would you like some animal food?"

Invalid—"Animal food? Well, I don't care for any hay or grass, but guess if I could worry down a little rye I'd feel better."—*Texas Siftings.*

"What are your charges, doctor?"

"Three dollars a visit."

"Well, we don't want you to come on a visit, but just to stay ten or fifteen minutes."—*Puck.*

The legislature of California has passed a bill appropriating $80,000 for the erection of a new medical college for the University in San Francisco. It will be built opposite the City and County Hospital.

Old Mrs. Bentley—"What a lot of new diseases they have now they didn't have twenty years ago!"

Old Mr. Bentley—"Yes, but you should remember, Eliza, we have a terrible sight more doctors now than we had twenty years ago."

In Warasdin, Croatia, a mother of 117 years gave away her maiden daughter of 83 to a tramway conductor of 46. The elder lady of the two was in an ecstacy of delight at having lived to see her child married.

Otto Stietz of the New York Glass Letter Company, met with death because he did not understand the simple principle of capillary attraction. He had been in the habit of taking chloroform to quiet his nerves. One night he dipped a towel in the anæsthetic and placed it over his face when he went to sleep. But one end of the towel reached to the end of the bowl containing the chloroform, and gradually absorbed the liquid and carried it up to the sleeper's face. In the morning the bowl was empty and Stietz was dead.

Doubled.

Said Johnny, when green apple cramps
Rebuked him for his sins
And bent him forward and reverse;
"Oh! run and get the ginger, nurse,
Oh!! Oh!!! I couldn't feel no worse,
Boo hoo!!!! ef I was twins."

—*Phildelaphia Press.*

Western Medical Reporter.

A Monthly Epitome of Medical Progress.

JOHN E. HARPER, A. M., M. D., EDITOR.

G. FRANK LYDSTON, M. D., ASSOCIATE EDITOR.

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THE EDITOR would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information should be accompanied by the full name and address of the writer, although not necessarily to be published.

All communications should be addressed to

WESTERN MEDICAL REPORTER,
163 State Street, Chicago.

Sentiment vs. Duty in a Medical Society.

The Chicago Medical Society appears to have some weak sisters among its members. At a recent meeting a committee was appointed to investigate the violations of the law regarding the advertisement and sale of abortifacients, and, further, to ascertain whether any member of the society was concerned in the perpetration of the infamous black-mailing scheme known as the "Exposé of Infanticide," fathered by a Chicago daily paper some time ago.

This was a good and worthy object, but it is evident that the friends of a certain would-be medical celebrity, who has been under suspicion, were on the alert. At the last meeting of the society, that portion of the resolution which related to the investigation of the abortion expose was stricken from the minutes. It would not be just to say that all those who voted to rescind that portion of the resolution, did it for the purpose of protecting the guilty member—if such member exist;—the object of the majority was probably the worthy one of avoiding further discussion of a very unsavory subject. Again, they probably could not believe it possible that any member of the Society would stoop so low as to aid and abet such an infamous scheme as that under consideration. Be that as it may however, as a preliminary to a future editorial of a more comprehensive character, we desire to call the attention of the members of the Chicago Medical Society to certain facts:

1. An "exposé" was published in a Chicago paper, which reflected seriously upon certain members of the C. M. Society.

2. The Society took action in the matter and even proposed to expel one of its members upon the alleged newspaper evidence.

3. The man who was at that time at the head of said newspaper, has since been shown to be a professional black-mailer of the most contemptible type and has recently been sentenced to the penitentiary for dishonest dealings in connection with the paper which he represented.

4. A certain prominent member of the C. M. S. was extensively advertised for his virtue in resisting temptation.

5. Said member was, and has been ever since, suspected by many of complicity in the contemptible black-mailing scheme, and was known to be intimately associated with the blackleg who ran the sheet that printed the foul stuff.

Now, in the light of the events which have happened since the disgraceful affair, is it not just that the Chicago Medical Society should investigate the

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matter? Is whitewash a good remedy for the old sore, or should it be opened up?

By all means let it be opened up—albeit the effluvium which will rise when the character of a certain man is exposed (if rumor be correct) may cause an epidemic of typhus. We desire to make certain positive statements for the edification of the members of the Chicago Medical Society:

There are good reasons for believing that the so-called "exposé" was originated and engineered by a distinguished member of your learned body. The enemies and professional rivals of said member are said to have been selected as targets for his envenomed shaft—a shaft which will prove a boomerang if he be proven guilty. The "exposé" was an out and out scheme of blackmail, by which, we presume, said member profited, if as alleged by many, he fostered the scheme. The suspected member was lauded to the skies for his virtue. He was not even modest enough to say, "No bouquets, please." (He may find that bouquets sometimes have strings tied to them).

If the allegations of some members of the Society as based upon circumstantial evidence be true, there must be in the Chicago Medical Society, a man who will scruple at nothing to aggrandize himself and drag down a professional brother—a man by comparison with whom, the midnight assassin is an angel. A man who would aid and abet such a scheme as the "infanticide exposé," would seek for notoriety and self-advancement in schemes foul enough to disgust one. His appetite for fame might be expected to be no more fastidious than the fleshly appetite of the lazzaroni who grope in the garbage barrel.

The man who is guilty, whoever he may be, is a disgrace to a civilized community and to our noble profession, and if he is a member of that body, it is the duty of the Chicago Medical Society to purge itself of the foul and stinking mass of corruption forthwith.

If the man against whom suspicion is directed is innocent, the Society should give him a chance to clear himself.

From whatever standpoint the members of the society may view the matter, it is their duty to give it an airing and the fullest investigation. To borrow an expression from the recent speech of Mr. Hynes in the Cronin trial, "the phosphorescence of a putrid conscience" may eventually betray the instigators of the so-called *exposé*, but meanwhile justice lags. Should the guilty person be discovered, and should he perchance be talented and prominent, his intellectual qualities should not be held in extenuation of his evil doing. The brilliancy of a man who is capable of such a damnable and nefarious plot, may indeed be likened to "that of a rotten mackerel in the moonlight, that shines and stinks and stinks and shines, and shines and stinks again."

Chronic Inflammation and Hyperplasia of the Genitalia in Women.

Prof. Robert W. Taylor, in the *New York Medical Journal* of Jan. 4, 1890, gives a thorough and exhaustive essay on the above subject. He shows conclusively that the esthesiomené or lupus of the vulva, as described by Huguier, is a misnomer. Dr. Taylor classifies the non-malignant inflammatory infiltrations of these parts as follows:

1. Small hyperplasiæ, caruncles and papillary growths.
2. Large hyperplasiæ and hypertrophies.
3. Hyperplasiæ arising from acute and chronic chancroids.
4. The various forms of hypertrophy induced by the indurating œdema of syphilis.
5. Hyperplasia resulting from chronic ulcers—so-called chancroids—in intermediary and old syphilis.
6. Hyperplasia in old syphilitics, presenting no specific character, and occurring soon or long after the period of gummy infiltration; in some cases being co-existent with specific lesions elsewhere.

Dr. Taylor has profusely illustrated his article, and has completely cleared up the question of this class of troubles in the female. We are especially indebted to Dr. Taylor for making clear a subject which had puzzled us considerably. During our term of service at the New York Charity Hospital (where Dr. Taylor's observations were made), we saw a number of cases similar to those which he describes. The visiting surgeon in several instances confessed his inability to explain the condition present, while in others the statement was made that the condition was that termed by Huguier, "lupus of the vulva;" others again were called chronic chancroid. Personally we failed to recognize in some instances the line of demarkation between these alleged variations of local disease. The analysis of cases presented by Dr. Taylor makes those which came under our observation quite clear. We have not seen typical cases of the kind since leaving the hospital, and it is our opinion that it is only in such fertile fields as the New York Charity Hospital, and at the hands of such experienced observers as Dr. Taylor, that a thorough study of the subject is possible.

The Meeting of the Southern Surgical and Gynæcological Association, and of the McDowell Medical Society.

The meeting of the association first named above at Nashville November 12, 13 and 14 was one of the events of the year in medical circles. It has never been our good fortune to attend a more enthusiastic meeting, nor one of so much scientific importance. Although a young society, the S. S. and G. Association is already a prominent factor in American medicine. The papers at this meeting were bright, ably discussed, and in the main such as will make a permanent impression upon the arts of surgery and gynæcology. Aside from the scientific features of the occasion, those of a social character were very gratifying to the Northern doctor, who had been used to regard a medical body as an organization established for the express purpose of gratifying medical politicians in their overweening desire to dismember each other from a professional standpoint. Good-fellowship, *esprit du corps*, and scientific ability form the tripod upon which rests the S. S. and G. A. Long may it flourish, is the wish of the appreciative Yankee doctor.

Even a casual survey of the programme would convince the thinking physician that some of the papers which were read will prove important factors in medical history-making. We cannot present the programme in detail, but it is only fitting that we should make special mention of some of the essays.

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The papers of Brokaw and Davis on "Intestinal Anastomosis," showed great originality and labor. Other papers of great merit were those of McMurty, Johnson, and Hadra, on "Abdominal Surgery;" McGuire and Stone on "Cystitis in Women;" Brown and Hardon, on "Gynecology;" Brownrigg on "Fractures of the Femur;" Wathen on "Ectopic Pregnancy;" Haggard on the "Improved Cæsarean Section;" Roberts on "Hernia," and Englemann on the "Cause of Menstruation."

While *en route* to Nashville, we had the pleasure of attending the meeting of the McDowell Medical Society at Henderson, Ky. The meeting was very interesting and well attended. Excellent papers and able discussions were the order of the day. We believe that the proceedings of this local society would put those of some much more pretentious organizations to the blush. The wheelhorses of this particular meeting were Drs. John Pendleton, of Hartford, Ky., Arch Dixon, John Young Brown, and James H. Letcher, of Henderson, Ky. The meeting closed with a genuine Kaintucky 'possum supper, with darkies singing "carve dat 'possum," and all the other necessary frills and furbelows.

Look Out, Texas!

We understand that a certain journal published way down South in Texas, hath in a recent issue made free with the personel of the editorial staff of the WESTERN MEDICAL REPORTER. Now we are modest people, and although we submit on this occasion, we protest against a repetition of the attack. We only submit this time because we understand that every Star in Texas is a shooting star. Thank you, brother Daniels, for your kind words and courteous consideration. Any time you get out of ammunition, we will help you out. We have a set of boxing gloves loaded with fourteen ounces of No. 6 shot, which are ever at your service. We trust that it may not be inferred that the staff of the REPORTER and brother Daniels are using the same catheter. *Per contra*, we never met him, but we are with him just the same.

Death from Rabies after Treatment by Pasteur.

A sad case is reported in the *London Med. Recorder*, Oct. 21, 1889. A man was bitten by a dog on March 3, 1887. The dog was at once killed, an autopsy was held and the animal was pronounced to have been suffering with rabies. The man had the wounds touched with nitrate of silver, and then went to Pasteur's Institute, where he was treated and later discharged as cured. On May 20, 1889, two years later, Dr. Desquin was called to see the man, and found him suffering with symptoms of hydrophobia. In spite of all that could be done the poor patient died in two days.

Two prominent surgeons in Pittsburg are charged with having left a pair of forceps in the abdominal cavity of a woman after a laparotomy. The presence of a foreign body was discovered by another surgeon, whom the patient had called in, and the wound was reopened and the forceps removed by him. The sergeons who made the first operation acknowledged having missed the forceps at the time, but refuse to believe that the instrument was found in the abdomen.

The Necessity for a Higher Standard of Accuracy for Toxic and Narcotic Drugs.

Show us a physician or pharmacist who has not been many times puzzled by the variable action of toxic drugs, indicating lack of uniformity in preparation, and such a one will be found to have had no practice in either art. While the question of standardizing preparations of toxic drugs is not a new one, and has been the dream of every progressive pharmacist and physician, practically it would seem difficult to determine just what standard of strength to adopt.

According to the Pharmacopœia, one cubic centimetre of a fluid extract represents one gramme of the drug employed in making it. It is apparent that such a preparation, although made from the best quality of drug the market affords, will not be of invariable strength. In the purchase of this crude drug, the quality must be largely judged by physical indications, which are often very deceptive. An estimation of the active medical ingredients is the only true criterion by which to judge the quality of a drug; and this is subject, even in carefully selected drugs, to a wide variation. Fluid extracts must, of course, share in this variability. It is this defect which is to be remedied.

That a pound of crude drug of good quality, properly manipulated, should produce a pound of fluid extract, seems a good basis for operations; but when the variability of crude drugs, and the consequent variability of fluid extracts produced therefrom is known, one cannot but look forward to the advent of the new Pharmacopœia with the hope that some uniform and more reliable method of standardizing fluid extracts, upon some safer and surer foundation, by which a preparation must be produced that can be used with more confidence in its definite therapeutic value, may be adopted. Individuals and manufacturing houses have, in a measure, recognized the necessity for such a standardization, and have in the past, in various ways, endeavored to meet the requirements of the medical profession in this respect.

The result has been that there are already standardizing preparations on the market, but these vary greatly in the strength adopted as the standard. There should be one only, and for this the Committee of Revision of the Pharmacopœia for 1890 should prescribe the process. To do this intelligently they should avail themselves of the work that has already been done in this direction, and this brings us naturally to a discussion of this work, which we shall consider below.—*Med. Age.*

Influenza.

℞. Ac. phos. dil.....M. xv.
Spt. chloroformi.....M. xxv.
Syr. scillæ.....℥j.
Aquæ.....ad ℥j.
M. Sig.—Four or six times every 24 hours.
Fothergill.

This will form an efficient expectorant, free from depressant effects in epidemic catarrh. In the convalescent stage, where a tonic is also desired, the following is also very acceptable:

℞. Acid nit. dil.....M. x
Sp. chloroformi.....℥ss.
Inf. cinchonæ.....℥j
Sig.—Three or four times a day.—*Fothergill.*

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Western Medical Reporter.
A Monthly Epitome of Medical Progress.

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ORIGINAL ARTICLES.

Sexual Perversion, Satyriasis and Nymphomania.

BY G. FRANK LYDSTON, M. D., Chicago.

Some of the manifestations of sexual perversion, quoted by various authorities, are very extraordinary, and it is difficult to associate them with titillations of the sexual sensibility. Perhaps the most familiar of these cases is that of Sprague, who was committed in Brooklyn a number of years ago for highway robbery. [1] It is unnecessary to present this case in detail, but an outline of it may prove interesting. Sprague was arrested immediately after having assaulted a young lady by throwing her down violently, removing one of her shoes and running away with it. He made no attempt to steal anything else, although she had on valuable jewelry. When the trial came on, insanity was alleged as a defense. Numerous witnesses, the principal of whom was the father of the defendant, a clergyman of the highest respectability, testified to the erratic conduct of the prisoner. A family history was elicited which bore most pertinently upon Sprague's case. His grandfather, grandmother, great-grand-uncle, three great-aunts, and a cousin having been insane. He had himself in his youth received numerous blows and falls upon the head, and within a year from the last head injury he had developed severe headaches, associated with which his friends noticed a bulging of the eyes. About this time the prisoner developed a fondness for stealing and hiding the shoes of females about the house, and it was found necessary by his relatives and the female domestics to carefully conceal or lock up their shoes to prevent his abstracting them. Upon investigation it was discovered that the act of stealing or handling the shoes produced in him sexual gratification."

Wharton [2] several years ago chronicled a most peculiar case of sexual perversion. In this instance the morbid sexual desire impelled the individual to assault young girls upon the streets of Leipzig by grasping them and plunging a small lancet into their arms above the elbow. The fact was developed after his arrest that these peculiar acts of assault were accompanied by seminal emissions. This authentic case gives a vivid coloring to the rational hypothesis that the now famous Whitechapel assassin is a sexual pervert, a theory which Kiernan in particular has supported, and which I believe has suggested itself to the minds of the majority of medical men who have given the murders even slight consideration.

Many cases of sexual perversion manifest themselves only under the influence of disease or of drunkenness. Ovarian irritation, and those more obscure cases of hysteria in women which we are unable to trace to a definite physical cause, are frequently associated with sexual perversion. The physiological(?) disturbance incidental to pregnancy is, in certain neurotic patients, productive of similar aberration. Whether the influence of liquor obtunds the moral faculties, or develops an inherent defect of sexual physiology in any given case, is of course difficult to determine. I know of an individual who conducts himself with perfect propriety when sober, and who is a man of exceptional intellect, but who, when under the influence of alcohol, is too low for consort with the human species.

The association of sexual perversion with malformations of the sexual organs with or without associated close approximation to the general physique of the opposite sex, male or female, as the case may be, is certainly not surprising. I have met, in my own experience, with a most peculiar illustration of this form of sexual perversion, in the form of a young mulatto hypospadiac. This man had marked hypospadias, and had, it seems, an affinity for women, as illustrated by the fact that he contracted a gonorrhœa in the normal manner. That he also had a predilection for the passive role in the act of copulation was demonstrated by the fact that a number of young lads, ranging from ten to seventeen years of age, who lived in the neighborhood in which the spurious hermaphrodite was employed in the capacity of cook, contracted from him typical gonorrhœa, for which several of them came under my care.

A peculiar case was recently reported to the Chicago Medical Society by Dr. A. R. Reynolds, of this city, of a man who had a love affair with a woman whose right lower extremity had been amputated at the thigh, and became so much attached to her that he was afterward impotent with perfectly formed women, it being necessary for him to secure females who had undergone mutilation similar to that of his former attachment in order that he might be sexually gratified.[1] A peculiar phase of sexual perversion is occasionally seen among masturbators, male and female. The individuals suffering from this have a peculiar predilection for titillating the sexual organs in the most outlandish fashion. Such patients are in many instances particularly fond of introducing foreign bodies of various kinds into the uretha and thus gratifying their sexual desires. Such cases occur even among persons who have opportunities for normal gratification. Thus an interesting case is reported by Poulet [2] of a married woman, the mother of three children, who failed to receive gratification from ordinary intercourse, and practiced masturbation with a blunt piece of wood fastened to a wire. Her unfortunate failing was exposed through the slipping of the foreign body from her grasp into the bladder. Kiernan reports a somewhat similar case of an insane girl who was admitted into his service at the Cook County Insane Asylum. In this instance the physical appearance of the sexual organs and anus led to a suspicion of pederasty which was confirmed upon investigation.[3]

I have already directed attention to forms of sexual perversion which do not conform to Westphal's definition of *Contrare Sexualempfindung*, which implies a sexual predilection on the part of an individual for those of his or her own sex with an inversion for sex-

[1] Beck: Medical Jurisprudence, Vol. I, 1860, p. 732.

[2] A Treatise on Mental Unsoundness, etc., Philadelphia, 1873.

[1] *Western Medical Reporter*, Nov., 1888.

[2] Foreign Bodies."

[3] *Western Medical Reporter*, Nov., 1888.

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ual intimacy with those of the opposite sex. In my opinion certain other cases of disease, the principal manifestation of which is excessive sexual desire, are really forms of sexual perversion. Such cases are often met with in both the male and the female.

Satyriasis is a disease that occurs in the male, with or without insanity, the principal manifestation of which is an abnormally excessive and unreasonable sexual desire. It is not a frequent disease as brought to the attention of the physician, probably because the opportunities for gratification of the male are relatively numerous.

The disease consists of a constant desire, attended with vigorous erections, which no amount of sexual intercourse in some instances will gratify. It has been termed "erotic delirium," and it may or may not be due to coarse disease of the brain. In the worst cases of the disease the unfortunate individual may be the subject of mania and delirium of a violent form. Acton[1] relates to the case of an old man, suffering from satyriasis, whose desire was so extreme that he would masturbate whenever he was brought in the presence of women. After his death a small tumor was found in the pons varolii.

Shocks and injuries involving the cerebellum are peculiarly apt to be followed by persistent erections. This phenomenon has been noticed in connection with executions by hanging. Injuries of the spinal cord, although in the majority of instances inhibiting the sexual function by producing complete paralysis of that portion of the cord which seems to bear an intimate relation to sexual sensibility, produce in some instances from irritation of the same nervous structure, persistent erection. Cases of this kind are related by Lallemand.[2] The following case is one which has been most frequently quoted:

"This man was a soldier, who, in climbing over the walls of the garrison, fell upon his sacrum. Following this injury he became paraplegic and suffered with persistent priapism. This lasted for some time, and could not be relieved by intercourse. All pleasurable sensations and the power of ejaculation were destroyed, although sexual desire was very ardent. During sleep, however, the unfortunate subject had lascivious dreams, accompanied by slight sensation and ejaculation."

The causes of satyriasis, as enumerated by different authorities, are: masturbation, diseases of the brain, particularly those affecting the cerebellum, injuries and diseases of the spinal cord, sexual excesses and the administration of poisonous doses of cantharides. Prolonged continuance is another rare and dubious cause to which satyriasis has been ascribed.

J. W. Howe,[3] quoting from Blandet, describes a case of this kind. The patient was an earnest, hard-working and zealous missionary. He was unfortunate in the possession of an intensely passionate nature, although he had gratified himself in a vicious manner. So intense was his excitement in the presence of women that it became necessary to seclude himself from them as far as possible. This plan proved a failure, for he became so much worse that he suffered from satyriasis in an extreme degree. A cure was finally accomplished by the normal indulgence of his passion.

[1] On the Reproductive Organs,

[2] On Spermatorrhœa.

[3] Excessive Venery.

The mild form of excessive sexual desire called priapism, may be due to local irritation. In some instances such irritation will produce severe priapism without sexual desire. I have at present under my charge a gentleman who is suffering in this manner. He is about 50 years of age, and has been somewhat dissipated and a high liver, as a consequence of which he has gout in an extreme degree. He has suffered for several years from vesical irritation, attributed by him to stricture of long standing. The urethra on examination presents no abnormality; the urine is highly concentrated and strongly acid. As soon as the patient retires for the night, he begins to be troubled with severe erections, which are so marked as to be quite painful, and which persist during the entire night. Sexual intercourse gives no relief. I can only attribute this case to sexual hyperæsthesia, incidental to long continued gout and irritation of the genito-urinary tract. This does not manifest itself during the daytime, but during the night; when, as is well known, the spinal cord is relatively hyperæmic and in a condition of increased functional activity. The same explanation holds good here that prevails in nocturnal emissions.

Nymphomania (erotomania, furor uterinus) is a disease analogous to satyriasis, occurring in the female. It is characterized by excessive and inordinate sexual desire, and often by the most pronounced lewdness and vulgarity of speech and action. In the most severe forms, it is apt to be associated with, and dependent upon, other forms of insanity, with or without gross brain disease. In some instances the disease is a reflex manifestation of irritative affections of the sexual apparatus. Thus, ovarian and uterine diseases are apt to be associated with it. Any irritation about the external genital organs in a female of hysterical temperament may produce the affection; all that is necessary being a nervous and excitable state of the nervous system, a passionate disposition, and the existence of local irritation of the sensitive sexual apparatus. Some of the recorded cases of nymphomania are very pitiful. It has been known to be associated with the cerebral disturbance incidental to pulmonary consumption. Thus, a case has been recorded of a woman who, in the last stages of this disease, exhibited the most inordinate sexual desire, and but a short time before her death importuned her husband to have intercourse with her.

The association of hysteria with this unfortunate condition of the mind and sexual organs is one with which nearly every gynecologist of experience is perfectly familiar. Nymphomania is also known to occur as a result of masturbation and sexual excess. In women of a highly erethistic temperament, it has been developed as a consequence of sudden cessation of the normal method of sexual indulgence.

A knowledge of sexual matters is by no means necessary to the development of nymphomania, for it has been known to occur in individuals who had neither masturbated nor indulged in sexual intercourse. Some of the most painful cases of the disease have occurred during pregnancy. The principal astonishing feature of such unfortunate cases is the acquirement of lewd actions and expressions on the part of women previously and naturally pure-minded and refined. Such women may use expressions and commit actions that lead the physician to wonder where they they possibly have acquired a knowledge of them.

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The gynecologist is compelled to be on his guard with reference to a not infrequent form of nymphomania, but one which is little suspected by those surrounding the patient, in which the woman develops a fondness for gynecological manipulations. The subterfuges and devices of such patients to induce handling of the sexual organs on part of the physician are something remarkable. Perhaps one of the most frequent forms of this malingering is the pretense of retention of urine; although every disease which they may have heard of will be complained of by such patients in their insane endeavors to obtain manipulations at the hands of gynecologists.

Howe relates an interesting case of this kind occurring under his observation at Bellevue Hospital:

"A girl, æt. 18, was admitted, supposed to be suffering from retention of urine. She was thin; her eyes were deep set, but bright and staring, and were found filled with tears. Her statement was that she had passed no water for three days; that she was subject to these attacks, and was treated by having her water drawn off. I introduced the catheter, and found only a few ounces of urine in her bladder—not enough, indeed, to corroborate her history. The next morning, as she had not urinated during the night, I drew off the urine again. While doing so I noticed by a series of peculiar convulsive movements, that she was under the influence of strong excitement. Further examination showed that the labia minora, clitoris and adjacent parts were red and swollen and bathed in a profuse mucous secretion. I then remembered that on the previous evening she had shown a somewhat similar state of excitement, and gave the nurse orders to watch her closely all day. In the evening the nurse informed me that the patient kept up a constant friction of the genitals when she supposed no one was watching, and even when eyes were on her she endeavored, by uneasy movements in the bed, to continue the titillation. Knowing then what I had to deal with, the patient was given a sedative, and was told that she must empty her bladder without assistance. For thirty-six hours subsequently she obstinately insisted on her inability to urinate. When she was told no catheter would be employed again there was no further retention. Soon after she left the hospital I learned that a physician friend of mine was treating her for uterine disorder, but he, too, soon found out the true nature of the case, and advised her to get married."

Several cases of a similar nature have come under my own observation, one during my hospital experience, and two others in private practice.

The treatment of satyriasis and nymphomania consists chiefly in the removal of irritation of the sexual apparatus, the administration of anaphrodisiac remedies to be hereafter considered, and attempts to restrain sexual excesses, or to break the habit of masturbation, as the case may be. Where there is actual organic disease the case is likely to be found to be incurable in the majority of instances, particularly if the structural disease involves the nervous centers. In women, the extirpation of the ovaries, or the procedure of Mr. Baker Brown—clitoridectomy may be performed. Howe recommends the application of the actual cautery to the back of the neck. Basing this treatment upon the theory that the disease takes its origin in over-excitation of the nerve fibers of the cerebellum or some of the ganglia in the neighborhood, he also suggests blisters and setons to answer the same purpose. Dry cupping to the nucha is also servicable. Means to restore the general health are always indicated. In the severe cases of the maniacal form of excessive sexual desire, the asylum is usually our only recourse.

A Rational Method of Obtaining Extension of the Spinal Cord and Column.

By Charles F. Stillman, M. D., Chicago.
(Member American Orthopædic Association.)

The employment of traction in affections of the spine is not of recent origin, horizontal couches provided with means for stretching the spinal column having been in vogue long anterior to the use of suspension, but the comparatively recent re-introduction of the latter principle has given it a new impetus, and traction in a straight line is now not only generally advised in the treatment of deformative conditions and diseases of the column, but also for the mechanical treatment of diseased conditions of the spinal cord itself. Traction upon a curved line, however, possesses so many advantages over this that I am constrained to advocate it strenuously.

Fig. 1.—Upright Spinal Extension Frame—as originally constructed.

Several years ago, while reading a paper upon Lateral Rotary Curvature before the orthopœdic section of the New York Academy of medicine,* I called attention to the employment of the curved board in connection with suspension as a curvative measure in that deformity.

At that time I presented to the notice of the section drawings of two frames, (see figs. 1 and 2) devised by me for this purpose, and, as far as known to me, the first ever constructed upon this principle.

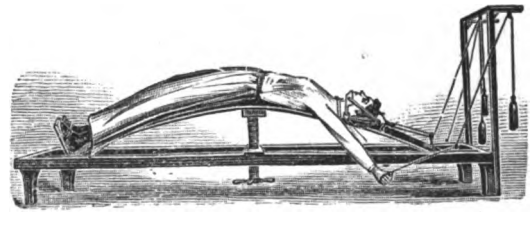

Fig. 2.—Recumbent Spinal Extension Frame, as originally constructed.

These frames I now take pleasure in formally presenting to the profession for their acceptance, but as they differ in some minor details from those originally

*The Medical Record, May 21, 1887.

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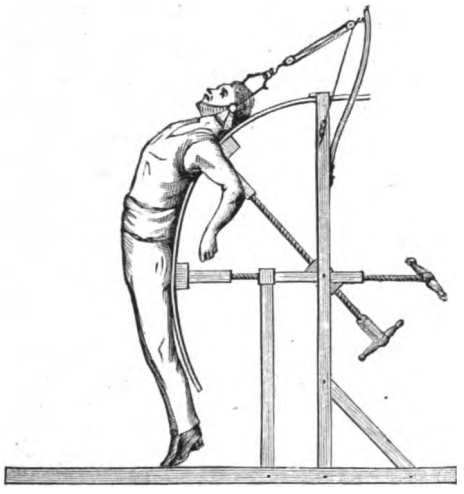
devised, and as their range of application has since been so greatly enlarged, I have deemed it expedient to bring their claims prominently before you through the medium of this paper.

The first one to which I wish to direct your attention is standing before you. (See fig. 3.)



E. H. SARGENT & CO.

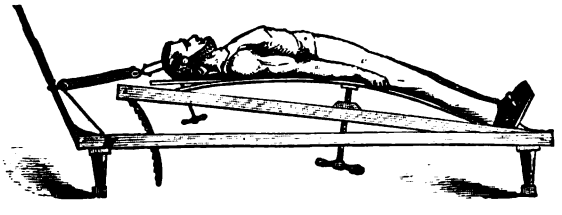
Fig. 3.—Stillman's Upright Spinal Extension Frame. (Posterior Curved Position.)

You will notice that it consists of a curved board, against which the patient leans, the curve being increased or diminished by means of a strong screw.

Traction is effected by means of pulleys and weights attached to a sling passing under the chin and occiput. The arms may remain free for exercises with dumb-bells, elastic cords or pulleys and weights, and slings may also pass under the axillæ as in the Sayre method.

It will readily be seen that if the posterior surface of the trunk is placed against the curved board, and traction on the spine is exerted by means of the pulleys and weights, the spine will be placed in a state of extension, the chest capacity will be increased and abdominal muscles strengthened, with a minimum of fatigue to the patient.

This frame, for the sake of convenience, I have designated as the upright form to distinguish it from the one to which I now take pleasure in inviting your attention. This, which I shall refer to as the *recumbent* (see fig. 4), is constructed upon the same principle, but a longer continuance of the traction is permitted while resting upon it than while using the upright form, and it is therefore better adapted for patients of delicate physique and those in advanced stages of disease.



E. H. SARGENT & CO.

Fig. 4.—Stillman's Recumbent Spinal Extension Frame. (Posterior Curved Position.)

It should not be lost sight of that in the use of these frames the patient is combining rest with traction in a greater degree than is possible in suspension by the Sayre method.

I shall proceed to the consideration of my subject mainly with reference to two conditions, viz: 1st, the Influence of Traction exerted during *posterior* curving of the spine as a method of treatment in Pott's Disease and Lateral Rotary Curvature; and 2d, the Influence of Traction exerted during *anterior* curving of the spine as a method of treatment in Locomotor Ataxia.

The use of these frames is not by any means confined to the treatment of these three conditions, but they are the only ones which will engage our attention this evening.

The changes in form of the spinal column under the influence of Traction may chiefly be referred to two causes, viz: the character of the inter-vertebral substance and ligaments connecting the vertebræ—and the shape of the vertebræ.

The inter-vertebral substance at its circumference is composed of fibro-cartilage and fibrous tissue, disposed in laminæ—these being arranged concentrically one within the other, with their edges turned toward the corresponding surfaces of the vertebræ. The plates of which these laminæ are composed are not quite vertical in their direction, those nearest the surface being curved outward, and closely approximated, protection being thus secured for the vertebræ in case an unsuspected jar or impact is received by them while the spine is curved.

The center of each inter-vertebral disk is composed of soft, elastic, pulpy matter, and the combined effect of the circumferential and central composition of the inter-vertebral substance, is to produce an elastic, tough material, which is both extensible and compressible in its nature, acting as an elastic "buffer" between the bodies of the vertebræ, while superincumbent weight is borne upon the spinal column, and allowing elongation of the vertebral column during traction.

*The natural curvatures of the spine in the neck and loins are due in a great measure to the variation of the inter-vertebral disks in shape, size and thickness.

In *shape* they accurately correspond with the surfaces of the bodies between which they are placed, being oval in the cervical and lumbar regions, and circular in the dorsal.

In *size* they are greatest in the lumbar region.

In *thickness* tbey vary not only in the different regions of the spine, but in different parts of the same region; thus they are uniformly thick in the lumbar region; thickest in front in cervical and lumbar region, which are convex forward, and behind, to a slight extent, in the dorsal region.

The cervical and lumbar regions are thus necessarily given a greater freedom and pliancy of movement than the dorsal region, which has, in proportion to its length, a much smaller quantity of inter-vertebral substance than the other regions, and whose concavity is chiefly due to the shape of the bones of the vertebræ and not to the shape of the intervertebral disks, as in the other regions.

As the intervertebral disks form about one-fourth of the spinal column, exclusive of the first two vertebræ, and as they are both compressible and extensible,

*The writer is indebted to Gray's Anatomy for the accuracy of these descriptions.

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it will readily be seen that they exercise a very important influence upon the production of extension of the spine. And here I wish to have it understood exactly what is meant by the word *extension* in this connection.

Extension is a word used to define the *condition* of a joint, or any portion of the body, produced by traction exerted in such a manner as to stretch it.

Traction is the *active cause; extension the result*—and it should not be confounded with the same word when used to express the motion of a limb as opposed to flexion. In addition to the intervertebral substance, the *ligamenta subflava* should also be given prominence as a factor in allowing the vertebral column to be elongated by traction. They are interposed between the laminæ of the vertebræ from the axis to the sacrum, and consists of *yellow elastic tissue*, the fibers of which are almost perpendicular in direction. In the cervical region they are thin in texture, but very broad and long; thicker in the dorsal region, and in the lumbar region are noticeably so.

These ligaments are very elastic, serving to preserve the upright posture, and to assist in resuming it after the spine has been flexed. When traction is exerted during posterior curving of the spine the extension condition is allowed to be produced mainly by the elastic nature of the intervertebral disks, and this is limited chiefly by the resistance of the anterior common ligament.

In the same manner, when traction is exerted during anterior curving of the spine, the extension condition is allowed mainly by the elastic nature of the ligamenta subflava and is limited chiefly by the resistance of the supra-spinous ligament. The construction of the capsular ligaments is also such as to permit this stretching to be accomplished. They are thin and loose ligamentous sacs attached to the contiguous margins of the articulating processes of each vertebra through the greater part of their circumference, and completed internally by the ligamenta subflava. They are longer and more loose in the cervical than in the dorsal or lumbar regions, and are lined on their inner surface by synovial membrane.

Attention is called to those ligaments particularly because in anterior curving of the spine it will be noticed that their sac-like construction does not interfere with the gliding upward of each inferior articular process of the vertebræ upon the articular process of the vertebra beneath, and does not oppose an obstacle to the stretching of the ligamenta subflava.

I shall first invite your attention to the merits of traction during posterior curving of the spine as an essential principle of the treatment of Pott's disease. It is a well known fact that this disease very rarely involves any other portion of a vertebra than its body in the early stages, and this clinical fact must be borne in mind in considering the mechanical treatment of this condition. Traction may also be exerted symmetrically instead of posteriorly in this disease, and it will perhaps lead to a more complete understanding of the nature of the latter if we study symmetrical traction first. By this term is meant the force which tends to convert the spine from a column into a chain, and so exerted that the main portion of the vertebræ and the posterior segments are both stretched to the same degree. This may be produced by any force which pulls the head and pelvis apart in a straight line, and the principle is utilized in several forms in the treatment of Pott's disease.

This form of traction may be produced by: 1st, the *upper extremity* (the ancients used to tie a patient head downward to a ladder in the time of Hippocrates).

2d, *Horizontal traction*, which is the essential principle of the various flat extension beds and frames employed[1]; and 3d, *by the weight of the lower extremity*, which embodies the principle of suspension now so generally employed and known as Sayre's Method.

Heather Bigg, of London, in commenting upon the latter method,[2] states that by it "the spine is changed from a column into a chain; from a mutual repose upon each other through their facets to a condition of mutual dependence upon their ligaments." He also asserts that "retching and vomiting not unfrequently —supervened—the patient sometimes fainted before its completion, and there are on record one or more instances in which fatal results have followed."

Prof. Shaffer, of New York, in his work on Pott's Disease, says: "When suspension is employed now-a-days to reduce the deformity of Pott's disease, it cannot, for reasons to be assigned, do more than modify the compensatory curves, unless ether be administered after the plan of the German surgeons." "If this be done, and it cannot, in my opinion, be other than dangerous or at best useless, it will be found that the pathological condition is more readily reduced inasmuch as the reflex spasm yields when an anæsthetic is administered."

He further observes: "When extension by means of suspension is applied, as it frequently is, now-a-days, to the whole vertebral column from the cervical vertebræ down, in cases of spinal disease and the curvatures resulting therefrom, how much of the apparent change that takes place in the projection is due to the effect produced upon the projection itself."

He then says: "It is a well-known fact that our height is increased in the morning after a few hours' rest in the recumbent position. Extension made through the healthy inter-vertebral fibro-cartilage, and the other structures binding the vertebral bones together, for a few moments only, is capable of lengthening the vertebral column to a very considerable extent. But when the extension is applied to the healthy spine the normal curves are also obliterated and the spinal column becomes straight, as it is in early infancy.

"When the same force is applied where a portion of the vertebral column is diseased, the compensatory curves which result from the changed center of gravity are also greatly modified, and the deformity is thus placed under far different relations to the healthy parts of the spine; and without, in my experience, affecting to any appreciable extent the true pathological curvatures."

The effects of a traction force exerted upon the spine while arched backward against a curved board is not open to these objections, and the application of this principle to the treatment of caries of the spine will commend itself to every surgeon. It must not be confounded with the so-called backward traction of Dr. C. Fayette Taylor, which was introduced by him at a meeting of the New York State Medical

[1] An interesting account of these can be found in the American Medical Association Transactions for 1880, by Dr. Benjamin Lee, of Philadelphia.

[2] Orthopragms of the Spine, 1882, p. 103.

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Society, in 1863. In Dr. Taylor's form of backward traction the spine was merely arched backward, to shift the super-incumbent weight from the bodies of the vertebræ to the posterior processes, while no traction force was exerted upon the spine in its entirety; but in the original method which I now present for your consideration, the posterior curving of the spine is produced, and in addition to this, a traction force is exerted through the linear axis of the column while in this backward arched position. (See Fig. 4.) The effect of this combination is to produce a correct extension of the entire spinal column, tending to reduce both the compensatory and actual deformity by the combined effect of the axis traction, and the forward pressure of the curved board at the seat of disease.

It will be found of great advantage to patients in the severer stages of caries of the spine to use the recumbent frame, since in addition to the curative effect upon the disease it provides the most satisfactory form of rest yet devised for their relief, for it provides:

1. Extension of the spinal column on a posterior curve, which of itself is a source of rest to the spine by removing all superincumbent weight.
2. It tends to reduce the deformity already existing, and arrest further progress of the disease by the combination of the extension with the forward pressure of the board at the seat of disease.
3. It allows these effects to be continued indefinitely without fatigue to the patient.

FIG 5.—V-Lever brace for middle dorsal region.

In the earlier stages of the disease, and during convalescence, both frames may be used to advantage in conjunction with the spring lever brace (see Fig. 5) which I devised in 1883, and have since perfected, and which has since been described in various journals.

The forward pressure of the curved board upon the diseased vertebræ which have a tendency to be absorbed anteriorly and thus form a knuckle, is a powerful factor in the arrest of the disease and obliteration of the deformity when combined with traction. This is easily illustrated by taking a strip of lead or other metal and bending it in the form of a knuckle. If this strip is seized at each end and pulled, it will be found impossible to thus efface the knuckle without the expenditure of great force.

This procedure aptly illustrates the principle governing Sayre's suspension, and demonstrates why so little actual effect is produced upon the diseased portion of the spine by the method he advocates. On the other hand, if the strip is arched backward and pulled, the knuckle being at the same time pressed in a forward direction with the thumbs it will be seen to disappear with the exercise of very slight force. This experiment illustrates very well the differences between Sayre's principle of suspension and the one I am advocating before you to-night, and which is exemplified in these frames.

I shall next direct your attention to the consideration of the subject of Traction combined with the curved board in the treatment of Lateral Rotary Curvature.

The idea of stretching the spine as one of the curative measures in this deformity is not a new one, Böttcher having advanced a plan for its production early in the present century, in a work on surgery published by him in Berlin.* In this work he illustrates his idea by an engraving showing an apparatus composed of a close-fitting pelvic band inferiorly and a jury mast superiorly—the two being connected by a metallic strip passing along the back of the head and spine—and provided with a ratchet for producing extension. The stretching or traction principle was next utilized in the formation of flat or horizontal extension couches, of which that of the elder Bigg, of London, forms a notable example; but traction of the spine did not come into general use until Prof. Sayre, of New York, popularized the plan by his advocacy of suspension.

When a patient is suspended, and the traction force is by this procedure exerted in a vertical direction, it will be seen that the abnormal curves become modified by the suspended weight of the lower extremities. The vertebræ being thus relieved from the pressure of their superincumbent weight, tend to rotate into their normal relations.

There is, however, a limit to the efficiency of the vertical traction or suspension, owing to the fact that traction in this direction cannot in severe cases bring to bear sufficient *oblique* force to overcome extensive rotation, for the value of suspension as an agent to produce extension of the spine is limited by the amount of weight which is suspended, and in many cases sufficient weight cannot be thus utilized without discomfort or even injury to the patient.

For the more scientific and complete reduction of the deformity in Lateral Rotary Curvature, I beg to direct your attention to the use of the curved board during the traction. It is obvious that the reduction of the deformity by traction should be effected before any other measures can be adopted successfully, and by means of these frames this reduction can be accomplished without the fatigue attending the process of suspension by the Sayre Method and with more satisfactory results. *Traction on a backward oblique curve* fulfills the indications completely. By this method not only is the spine stretched on a posterior curve, so that the bodies of the vertebræ are more unlocked and separated than by the vertical method, but the rotation is also assisted by the direct pressure of the curved board upon protruding parts, a feature not possessed at all by Sayre's suspension, and which tends to reduce the deformity much more satisfactorily.

If the recumbent frame be used it possesses the great advantage of being so comfortable for the pa-

*Berlin, 1795, Johann Bottcher.

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tient that it can be employed for hours at a time, thus combining with traction the principle of rest in a favorable position. The patient is first directed to lie upon the back, the feet being secured in the foot pieces and the pelvis kept flat upon the board. The trunk is now to be twisted in a direction opposite to the curvature and traction upon the spine secured by a weight at the head. If the curve of the board is now increased by means of the screw underneath, the apparatus will exert a traction force upon the spine which will tend to obliterate the deformity more perfectly than by any other method in use. In the upright frame the same effect can be produced but it cannot be so long continued without fatigue for the patient. A great advantage possessed by these frames lies in the fact that gymnastic exercises (with dumbbells, elastic cords and pulleys and weights), tending to increase the muscular development and vitality of the patient, can be practiced while the spine is in a state of traction and the deformity reduced. Such exercises only tend to increase the curvature if practiced when the deformity is not reduced, owing to the influence of the superincumbent weight in furthering its development. It is now almost three years since I advocated the use of these frames before the orthopædic section of the New York Academy of Medicine, and demonstrated the principles upon which they were founded, and they have been in actual use by me for the last five years with eminently satisfactory results.

But I am not alone in my position regarding the requisites for successful treatment of this deformity. During a discussion of the subject before the Section of Surgery of the New York Academy of Medicine[2] last year Prof. A. B. Judson stated that "he thought it advisable to place the patient in such a position that the deformity becomes reduced as far as practicable and then have him remain in that position as much as possible each day." He "recognized the importance of superincumbent weight in the direct causation of the deformity, and believes that a patient should, while lying down, assume such a position as to produce a *lordosis*." "In rotation of the spinal column," he believes "the anterior portion of the vertebræ to be most at fault," and he, therefore, believes *"the pressure should be removed from the anterior part of the vertebræ to the posterior,"* and he also holds the view "that whatever increases the capacity of the chest tends to improve the curvature." It is manifest that these frames fulfill these requirements.

The third and last division of the subject to which I will ask your attention this evening is the use of curved traction in

LOCOMOTOR ATAXIA.

I have no need to refer to the present interest manifested by the profession in the success of the suspension treatment, first practiced and published by Motchoukowski in Odessa in 1883, and afterward brought into prominence by Charcot in Paris in January of the present year. In this country Morton, Dana, and others, have recently established valuable contributions to this subject, and a review of the cases so far collected from various sources which have been treated by this method shows a preponderance of favorable results. The treatment as outlined by these writers is simple and easily followed. It consists in suspending the patient for a period ranging from two to ten minutes once a day, or once every second or third day.

The precise effect of suspension upon the spinal cord and nerves in this disease is not as yet determined.

Dana[1] considers that "it gives a slight stretching to the nerves and an impulse to a better circulation in the cord." He also considers it a "method of treatment inferior to others in our possession."

Waitzfelder[2] considers "it hardly reasonable to suppose that the cord itself was stretched, for it floats so freely in the spinal canal that the counter extension of the weight of the body is not sufficient to produce that result without the greatest pain." He considers "it more likely that the traction exerted on the spinal nerves in some way brings about a change in the circulation and nutrition of the cord, and the amelioration of the symptoms is due to a lessening of the vascular supply of the cord and its membranes."

Morton[3] in his report on this subject asks the following pertinent questions: "What are the effects of suspension upon the healthy spinal cord? What the cause of the effect upon the diseased cord? Is it due to a diminution of the irritability of the cord by stretching it, and temporary; or by reason of frequent and forced reduction of abnormal irritability likely to become permanent? Whether the cord can or cannot be actually elongated? What results may be obtained in other diseases, and whether a restoration of function may not influence the condition of a lesion?"

In conclusion, he considers "the subject is but just entering upon its experimental and clinical stage, but if we accept the facts thus far reported, and if they prove to be repeated in a large number of cases, we shall be obliged to admit that the sum total of improvement and cure, be it temporary or permanent, is far in excess of that attainable by any previous means, and as such must be regarded as the most signal advance yet made in the treatment of this hitherto intractable disease."

[4]Motchoukowski is inclined to believe the improvement noticed in his cases to be due to the greater activity of the circulation induced during suspension.

He noted increased arterial tension and increased rapidity of the pulse and respiration during the suspension of living persons, and in experiments upon a cadaver he found a lengthening of the spine between the second cervical and fourth lumbar vertebræ of 2¼ ctm.

[5] The writer of an able editorial upon the subject, published in the Journal of the American Medical Association, September 7, 1889, states that "although the status of any therapeutic measure in a disease of so protracted and irregular course can only be determined after much more prolonged observation than has been had in most of the cases thus far treated, the reported results have been, temporarily at least, so generally favorable, and the difficulty and risk of

[1]See page 570, *The Medical Record*, May 21, 1887.

[2]Journal of the American Medical Association, 1888; page 501.

[1] The Medical Record, April 13, 1889, page 420.

[2] The Medical Record, June 8, 1889, page 630.

[3] The Medical Record, April 13, 1889, page 406.

[4] Vratsch, No. 17 to 21, 1883.

[5] Page 343.

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the treatment, under proper precautions, are so slight that it would seem worthy of a general trial."

He further states that "the rationale of the treatment is not very evident." "Experiments have shown that in the cadaver, at least, the vertebral canal is sufficiently elongated to exert slight traction upon the spinal cord by the nerve roots; but why this should be beneficial is not quite clear." "Althaus suggests that it may be due to the breaking up of adhesions in the meninges and neuroglia." For the present he considers the method must be considered empirical rather than scientific.

He also draws attention to the fact that two persons who have attempted to conduct the treatment on their own persons have died from asphyxia, and that death has occurred apparently as the result of suspension in two other cases where it was practiced without medical supervision.

He deems it "advisable that when undertaken it should be conducted by the physician and begun with caution." "Pulmonary, cardiac and vascular disease, great debility and anæmia are held to be contra-indications."

In conclusion, he states that "even if only temporary comfort can be given to any large proportion of the sufferers from this disease, it will be a great boon to both physician and patient, and so far mitigate what has been one of the opprobia of medicine."

To still further contribute to the successful treatment of locomotor ataxia, I wish to advocate the use of the curved board, combined with traction, and I contend that if suspension in a direct line, according to the Sayre method advocated by Charcot and Motchoukowski, exerts an appreciable influence in either elongating the spinal cord or stretching the spinal nerves, traction exerted upon the spine while it is curved *anteriorly*, with the patient resting comfortably during the process, will produce much more marked results. We have already described the ligamenta subflava in a preceding portion of this paper, and it is now incumbent upon us to study their relations to this procedure.

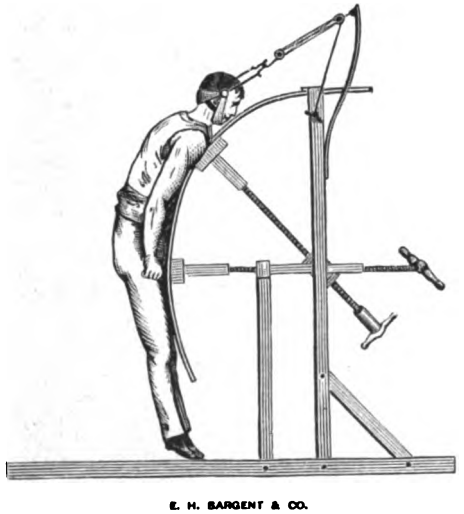

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FIG. 6.—Upright Spinal Extension Frame.
(Anterior curved position.)

The proximity to the spinal cord of this very elastic ligamentous structure should be borne closely in mind, for if any actual elongation of the cord or the spinal nerves does take place during traction, it must be due to the stretchable quality of these ligaments, which lie so close to the spinal canal.

I contend that the cord will be more elongated by traction in the anterior curved (see Fig. 6), than in either the posterior curved or vertical positions of the spine, and in support of my position a glance at the vertebral column in its entirety and in its relation to the spinal cord is necessary.

The spinal *cord* is the cylindrical elongated part of the cerebro-spinal axis contained in the spinal canal.

It does not completely fill this canal, its investing membranes being separated from the surrounding walls by areolar tissue and a plexus of veins, and it occupies in the adult only the upper two-thirds of the canal extending from the foramen magnum to the lower border of the first lumbar vertebra, where it terminates in a slender filament of gray substance which is continued for some distance into the filum terminale.

The spinal canal is posterior to the main portion (i. e., the bodies and their intervertebral cartilages)

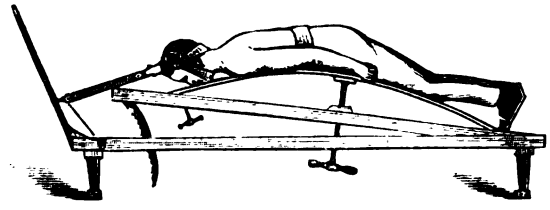

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FIG. 7.—Recumbent spinal expansion frame.
(Anterior curved position.)

of the vertebral column, and this is an anatomical feature to be emphasized, because, on account of this arrangement, it is plain that a given amount of traction exerted on the column in an anterior curved position (this anterior curving or "flexion" of the spine being the most extensive of any of its movements, and freely permitted in the cervical and lumbar regions) must result in greater elongation of the cord itself, situated behind the vertebral bodies, than an equal amount of traction exerted with the column in any other position.

We will now place a patient face downward (Fig. 7) upon this recumbent traction frame in which the curve of the board is made to correspond as nearly as possible to the normal curve of the spine in the dorsal region. Owing to the flexibility of the cervical and lumbar regions just referred to, the cervical and lumbar vertebræ assume the same arc as the dorsal, and we have the entire vertebral column describing one curve. Next secure the patient's feet to the footboard and apply traction to the spine by means of weight at the head. It will be seen by the measure which has been laid out in inches upon the board, that by the traction the body has been elongated several inches. Some of this is attributable to the stretching of the lower extremities, but a portion of it has been accomplished in the vertebral column itself. If the screw is now gradually turned so as to increase the curve of the board, we find that the distances between the spinous processes become increased in proportion as the arc is increased by the screw; and since the center of the arc of this stretched spine is anterior to the column, it follows that there is more traction exerted upon the spinal canal and its contents, than upon the anterior portion of the column.

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In Sayre's suspension as advocated by Charcot, we depend for extension of the spine upon the stretchable qualities of the tissues other than osseous, and white fibrous, of which the spinal column is composed, while in the method I advocate to-night we have in addition to the increased anatomical advantage of the anterior curved position itself, a more accurate method of graduating the traction, and the great advantage of applying the traction while the patient is in a position of comfort, and not one of torture or danger.

The question of *rest* during traction has never been broached by advocates of Sayre's suspension, because it is an impossibility during that process. On the other hand, during traction upon the curved board it is not only possible, but is an advantageous feature of the treatment.

The importance of *rest* in the treatment of this disease has been advocated by Prof. D. R. Brower, of Chicago, in a clinical lecture[1] published last year. He states that, "in the early history of these cases, before the ataxia is manifest, when you can recognize by certain symptoms the beginning of the disease, when in other words, you have an impairment of the reflexes, disturbance of color sense, diæsthesias throughout the body, impairment of tactile and pain sense, mental depression and irritability of disposition and severe localized pain, you may do something for your patient, and sometimes cure him. If you treat the disease vigorously in the pre-ataxic stage, you can every now and then arrest it. You do this by putting the spinal cord as nearly as possible in a state of absolute rest.

"Put your patient to bed and keep him in a horizontal position. By judicious massage and Faradic exercise of the muscles prevent the possibility of their wasting; and give him at the same time such internal treatment as is indicated and in accordance with the etiology of the case."

Rest in the recumbent position, so strongly recommended in the paragraph just quoted, is perfectly feasible upon the recumbent frame, in addition to the traction which can also be applied at the same time and without impairing the patient's comfort.

In conclusion: I would advocate in the treatment of "Locomotor Ataxia," in addition to the constitutional treatment:

1. The use of both the erect and recumbent curved traction frames as being superior both in principle and practice to the Sayre suspension apparatus employed by Motschoukowski and Charcot.

2. The use of traction while the spine is curved *anteriorly*, to produce the greatest possible degree of elongation of the cord and spinal nerves consistent with a requisite amount of rest, comfort and freedom from danger.

3. The use of traction while the spine is curved *posteriorly*, to increase the vital power.

4. The use of appropriate gymnastic exercises during the curved traction to restore impaired muscular function and improve general nutrition.

5. The use of appropriate forms of electricity[2] while the traction and the rest are being practiced.

[1] *Medical and Surgical Reporter*, Philadelphia, April 28, 1888.

[2] On the subject of electricity in the treatment of this disease, Stembo (*Berliner Klinisch Wochenschrift*, Oct. 29, 1888), states that "although so much is written concerning tabes, yet but little appears as to its treatment."

He considers "electricity to be by all means the best treatment for tabes, and that the constant current has been the one chiefly employed in Germany, England and Russia, while the interrupted current is used in France and also in America."

Three Peritoneal Sections Performed Upon the Same Patient Within Nine Months—Vaginal Section, Ventral Section and Inguinal Section.

By Henry T. Byford, M. D., Chicago.

(Professor of Diseases of Women, Post Graduate Medical School; Gynecologist to St. Luke's Hospital; Surgeon to the Woman's Hospital of Chicago.)

I have thought this case interesting because of the number of peritoneal sections performed upon the same person, and because it included the first removal of an ovary from within the pelvic cavity, by way of the inguinal canal,* and from its illustration of the characteristic results of too much conservatism.

The patient, Sophie N., a servant girl 28 years old, was admitted to St. Luke's Hospital May 14, 1888, and received local treatment for an enlarged right ovary and retroversion of uterus, with a temperature constantly above 99° F., even when she was kept in bed for two weeks. Uterus could not be kept in position by a pessary. On account of the continued pain, and desire of the patient to become able to again work for her living, I consented to remove the enlarged ovary. This I did by vaginal section Aug. 15, 1888. The left ovary was drawn down in sight, and appearing healthy, was not taken out. After closing the vaginal incision I introduced a stem into the flabby uterus, and tamponed it in position with iodoform gauze.

The patient made a smooth recovery, but the uterus again became retroverted when the patient got up from her bed. The temperature became normal, but the backache, and particularly the pain in the left side, were still so severe upon any attempt at active exercise that, after several months' treatment at the dispensary, the patient returned to have the other ovary removed. Her general health was becoming more impaired, and her mental condition one of anxiety and despondency.

I opened the abdomen over the symphisis Jan. 9, 1889, before the regular clinical class of St. Luke's Hospital,† examined the left ovary again by sight and touch, and, finding it healthy, dropped it back into the abdominal cavity. I pulled up the old stump, from which the ligatures (braided silk No. 10) had become absorbed, and stitched it to the peritoneum and fascia, to the right of the supra-pubic region, by one fine silk suture. I then introduced a thread through the broad ligament near the uterus, so as to include the round ligament, and sutured this part to the peritoneum on the left side, using only one stitch.

Patient recovered without a bad symptom, except that the temperature went up to 100° F. three weeks later, at her subsequent menstrual period. When, at the end of four weeks, she was allowed to get up, she still complained of her back. As the cervix as well as the fundus was forward, I introduced one of my barrier pessaries to hold the cervix back, and turned her over to the out-door department for local treatment.

In about three months she returned with her left side worse than ever. She had tried to work, but was unable to do so, and now impatiently demanded

* All other inguinal oophorectomies have been, as far as I know, for ovaries within or at the entrance of the inguinal canal.

† Reported in the North American Practitioner, Feb., 1889.

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that all of her pelvic organs be taken out. Local treatment had again failed to help her.

By examination I found the uterus still hung up behind the pubes, and the left ovary very tender and drawn forward so as to lie behind the inguinal canal. Accordingly, on the 18th of May, 1889, in presence of the post-graduate class, I cut down upon the left external inguinal ring, opened the canal a short distance, cut through its posterior wall into the peritoneal cavity, and came directly upon the ovary. I was able with forceps to draw forth the ovary through an opening in the peritoneum that would not freely admit two fingers. The broad ligament was very firmly attached to the peritoneum anteriorly, just as it had been sewed, but the ovary was now enlarged and adherent to the posterior surface of the broad ligament. The tube was adherent to the abdominal wall and to the omentum. I ligated the tube and ovarian ligament with their vessels with one thread, and the infundibulo pelvic ligament and ovarian artery with another. I then put a temporary clamp upon the pedicle, cut off the ovary and tube, and sewed up the edges of the unligated middle portion of the broad ligament with fine silk. The pedicle was thus flat, and over an inch wide, and traction of the infundibulo-pelvic portion of the pedicle upon the uterus avoided. The patient recovered promptly, with only one bad symptom, viz: suppuration of the drainage hole, lasting five months (although the discharge was slight after the first month) before finally closing. I attributed this to the abundance and loose character of the fatty connective tissue in front of and under the paravesical pouch, and would counsel any one who may enter the peritoneal cavity by this route to work a little upward as he goes through the posterior wall of the inguinal canal, for fear of getting under instead of into the pouch.

By way of criticism I may say that it would have been better to have removed both ovaries at the first operation, viz: the vaginal section. The displacement could then probably have been cured, as it has been in other cases of mine, by being tamponed in position until the exudates and adhesions about both stumps and the recto-uterine pouch had formed. But I believed, and still believe, that the left ovary would not have become diseased through the first operation. Hence my conservatism seems not entirely unjustifiable, particularly as she was rather an attractive-looking girl, and might have had a chance to marry and bear children. The cause of the disease, of the remaining ovary, was the suturing of the sound side to the abdominal walls, an observation which has led me to suspect that the broad ligament structures should not be sutured, unless the ovary be at the same time removed. It were better, I think, either to remove the ovaries, or else pass the thread through the uterine wall.

In case only one ovary were removed, it would usually be sufficient for a case of retroversion to suture the side of the stump only. Either Alexander's operation or posterior fixation by suturing the sacro-uterine ligament is preferable to stitching the sound side. As to the unjustifiability of opening the abdominal cavity so often in one patient, we have come to a point in which we can say that it is about as safe to open the abdominal cavity as to open deep into cellular tissue. The danger lies not so much in opening the cavity as in the diseased conditions we find and interfere with. Exploration, hysterorrhaphy and the removal of ovaries without adhesions or development into tumors, give very slight mortalities in the hands of the expert, and will soon be, in fact are now, performed in cases in which life is not at stake.

As to this particular case, operations upon the peritoneum did not seem to affect the patient any more seriously than minor operations do the majority of patients. She is completely cured of her symptoms, and is now content to retain the rest of her organs.

Society Proceedings.

Chicago Medical Society.

A. E. Hoadley, M. D.....*President.*
Junius C. Hoag, M. D.....*Secretary.*
F. A. Holland.....*Stenographer.*

Chicago, December 2, 1889.

Stated meeting. The President, Dr. A. E. Hoadley, in the Chair.

Dr. Charles F. Stillman, of Chicago, read, by invitation of the Society, a paper on *A Rational Method of Obtaining Extension of the Spinal Cord and Column*, which was discussed as follows:

Dr. Edmund Andrews: Mr. President, we will have to talk rapidly, as the hour does not permit of our discussing this at any length, but we can at any rate express our gratification at this application of mechanical principles to orthopædic purposes.

The apparatus you have seen here shows its capacity to make the extension manageable and variable in amount and to gain the utmost force inch by inch, step by step, as you see. This is a great improvement over the methods that have been adopted for accomplishing similar effects at other times. Most of you who have practiced surgery have endeavored to attain these effects in various extemporized ways. I have, for instance, obtained this arched form of the couch by simply putting pillows under the middle of the patient's back, or at whatever point his deformity was, and then got attachments for extension force by adhesive plasters on the legs, or thighs, or by a belt around the hips. We obtained counter extension by the ordinary head-stretch; if the deformity was high up, or if it was low down, we left the head free and attached four large adhesive plasters to the back and front of the chest. I also used a leather jacket for the same purpose.

In innumerable ways we endeavored to accomplish the object we had in view, but this apparatus gets the result in a better way. I mention these things to show that Dr. Stillman is not proposing things merely on a theoretical basis, but has embodied well-proven principles in his apparatus, such as are likely to give to it real practical value. I suppose when the Doctor makes a prolonged use of this apparatus he has it properly padded, of course. The whole thing seems more easily managed than the extempore forms we used to resort to.

I want to call attention to an additional use for it, which I do not think the Doctor mentioned. I have been in the habit in my lectures, despite the contrary advice of all the old authors and most of the new ones, of recommending vigorous extension in that

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class of fractures of the spine which we ordinarily see, where the fracture is in the body of the vertebræ. I do not refer to fractures of the spinal arches, but to those where a patient has fallen from a height or been doubled over. In this class of injuries the bone generally gives way in an oblique form, and the surface of fracture runs from above downward and forward; hence, longitudinal traction on the spine tends as in other oblique fractures to reduce the displacement.

For fifteen or twenty years I have practiced stretching my fractures of the spine except in a few where the patients seemed just on the verge of death. I stationed two assistants at the feet, two at the shoulders and one at the head, and have them make strong extension against each other until the patient feels something slip on his back, and then put adhesive plasters on the legs, with a weight and pulley of ten pounds to each leg, and if the deformity is low down I put on large adhesive plasters on the back and front of the chest so as to get a good hold, and I have sometimes put slings under the armpits. But I think now the head-stretching would be better.

A Boston surgeon has recently advocated with a great deal of force the reducing of fractures by pulling, and retains the parts by a plaster jacket. I have never applied a plaster of paris jacket in this accident, yet it strikes me that Dr. Stillman's extension might be better. I think the Doctor would find it entirely feasible to apply his method to fractures of the bodies of the vertebræ, and it might result in saving the lives of a number of those unfortunate patients. Of course, if the accident has crushed the spinal cord completely off, nothing can cure it; but the statement has been made that in the majority of those cases that have died it is found upon post mortem examination that the spinal cord is not absolutely crushed off. Hence it is probable that a considerable portion of them might recover if the cord were only relieved from the pressure of the displaced bone by applying traction with this apparatus.

Dr. C. T. Parkes: Mr. President, Members of the Society: I desire to express my pleasure at having heard this very interesting paper, and to extend to Dr. Stillman my especial thanks for the instruction he has given us this evening. My experience in these matters has not been sufficient to warrant me in making much of a criticism. I should say the instruments as presented here to-night are nearly perfect. I cannot see, though, that the apparatus is applicable to all cases of posterior curvature. It no doubt would be very efficacious in this disease, in the earlier manifestations of the disease. But I have yet to see a case of extensive posterior bending from disease of the bodies—Pott's disease so called—in which extension by suspension has made much if any change in the deformity so far as the prominence posteriorly is concerned, when that is great, and it strikes me that it would be hardly possible to put these cases on this convexity and safely make extension. It has been my plan in lateral curvature, and I have been satisfied with the results, to depend entirely upon athletic exercises; but in all the cases, I have reached a point where the deformity ceases to be benefited in any way; but during the application to this man's case to-night, it seemed to me this plan would be an assistance in overcoming the deformity which remains, and I shall certainly advise its adoption in future cases that come under my control, especially since it does not interfere with the exercise of the muscles. Dr. Stillman did me the honor to call on me last Saturday, and as soon as he presented a rough draft of the apparatus, I said to him that it was seemingly the best plan that could be adopted for fractures of the spine. For one reason or another, I have recently done several operations by incision down to the seat of the injury, to relieve the patient of pressure upon the spinal cord, and, if not conferring much benefit on the patient, I have conferred some on myself, in that I demonstrated that the principal part of the pressure did not depend on the spinous processes or the laminæ. I found plainly illustrated that the reason the function was interfered with was simply that the cord was stretched over the angle of the fractured body, so the laminæ and the posterior portions of the canal had very little to do with the pressure, only allowing of counter pressure. These cases were every one absolutely relieved for a time, still not permanently. The Doctor stated that this apparatus could be arranged so that the patient could be kept on a water bed, the same as is done now. In that case it would be of immense advantage.

Dr. D. R. Brower. Mr. President, Fellow Members: Like the gentlemen who preceded me, I consider myself especially fortunate in being here to-night and seeing Dr. Stillman exhibit this appliance to us. My interest in this apparatus consists entirely, however, in its adaption to locomotor ataxia. Since our attention was called to this method of treatment in locomotor ataxia by Prof. Charcot I have been trying it, and I believe with some good results, and in one case with what I would call remarkable results. But the appliances we have had heretofore, especially the Sayre's apparatus, that have been modified by other practitioners, are all most uncomfortable to the patients. In beginning the treatment of locomotor ataxia by this method of suspension, I find it impossible to suspend the patient more than one or two minutes, and that trifling amount of suspension would not seem to be capable of doing very much good. After a few days use of the method a patient can be made to endure a suspension of four or five minutes, I have never yet exceeded the five minutes limit, and that by dividing the suspension between the head and arm pits, by the ordinary Sayre's method. It seems to me this horizontal contrivance offers us a most admirable instrument by which to use the treatment. Of course you all know that this method of treatment is still under discussion; it has not been in force long enough to enable us to speak very positively about its results in a disease like locomotor ataxia, that has its natural periods of variation; periods of improvement and periods without improvement, but I have seen enough to believe that in some cases this method of extension will be productive of good results; indeed, I think every case of uncomplicated locomotor ataxia should be subjected to this treatment, and with this horizontal contrivance, as I said, we have an instrument by which this extension can be continued, I suppose if necessary, for an hour at least. If there is any virtue in extension it can be fully developed by this method. I have one patient who has made a remarkable improvement up to this point so that he is now walking about, scarcely requiring one stick, while before he was absolutely helpless, had lost control of his lower extremities entirely. When I called to see

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him his wife described the action of his limbs as resembling those of a doll baby. First he walked on crutches, then with two canes and now with one. His treatment began five or six months ago. There is no question about the diagnosis of the case; he had been seen by Prof. Lyman and by other specialists, all agreeing in diagnosis, but the results of the treatment were far beyond anything I had supposed possible. It was commenced as an experiment and it has produced in this case, certainly, most astonishing results. I have recently heard from a physician friend of mine in New York of a similar case with similar results. You may say these cases are exceptional, and you may say the result was not due to the extension. But it certainly was coincidental with the extension, to say the least. I have another case that is improving quite markedly from the same method of treatment. The Sayre's method and its modifications are so distressing to the patient that it cannot be used to accomplish much, but here, where the patient can be suspended if necessary for an hour, if there is anything in the method, it will soon bring about good results. I am sorry the Doctor did not tell us in his paper about his personal experience with extension in locomotor ataxia, I understand that he has had experience and is prepared to personally endorse extension. Of course I would not limit the treatment of locomotor ataxia to this method; I think every other reasonable method should be associated with it. I should commence the treatment of locomotor ataxia by prolonged rest. If the disease is recognized in its pre-ataxia stage, I believe a prolonged rest at that time will result in a recovery, certainly of a few patients.

Dr. A. B. Hosmer. There is one point that I think particular stress should be laid upon, and that is the value of this method of making traction in affording spinal patients the opportunity to exercise and develop the chest and vital powers while in a proper condition of extension. I think this is extremely important in the treatment, not only of scoliosis, but also of kyphosis, especially in its earlier stages.

Dr. E. W. Lee. Mr. President: While there is no doubt of the extreme usefulness of this apparatus in a large field, there is one point that has not been touched upon. It strikes me there is a possibility of this doing some harm. It has been advocated here as a treatment for fracture of the spine. I think it is within the range of possibility that it might cause fracture of the spine in cases where there is extensive necrosis, where that powerful leverage is applied, it is quite possible for that to induce fracture of the spine. That is the only point I wished to call attention to. I think it is an extremely ingenious apparatus and that it has a very wide field for use in surgical and medical cases.

Dr. Archibald Church. I should like to say a word in regard to some recent articles which have appeared, pointing out the danger of this suspension treatment, in locomotor ataxia particularly, and in allied conditions. The particular thing to which I refer is a paper by Dr. Blocq, a pupil of Charcot's, in which he points out that directly attributable to extension by the Sayre apparatus—and it would also apply to this method, I think—there have resulted paralysis, sudden and alarming syncope, cerebral hemorrhage, and even instant death. He gives three cases in which a fatal termination occurred directly caused by the employment of this procedure, and it has come to my knowledge that two deaths have taken place much nearer home from the same cause, therefore I cannot endorse Dr. Brower's statement that every case of locomotor ataxia should be subjected to this treatment. Blocq points out as counter indications: anæmia arising from any cause, tendency to heart failure, pre-existing cerebral gross lesions, obesity, œdema, atheroma and kidney diseases. Some interesting experiments on rabbits have lately been reported by Lombroso, before the Italian Medical Congress. These experiments were conducted in two series. In the first he added a certain weight to the body of the rabbit in order to bring about the proportional weight of the human body to the head, and all these rabbits succumbed after an average of ten suspensions. The other series suffered bad results from the treatment to which they were subjected.

In the first series he examined the nervous centers, and found in every instance minute hemorrhages in the meninges of the brain and spinal cord, and slight extravasations in the gray matter, most marked in the cervical region of the cord. In the other series no such pathological conditions were developed. The majority of those who have treated the subject are of opinion that it brings about a hyperæmia of the nervous apparatus, and the vascular system is undoubtedly subject to increased tension, as is shown by the sphygmograph, the suffused face and quickened respiration.

In regard to the matter of securing stretching of the spinal cord by the arched position, you will recollect that the articular processes of the vertebræ are in a lateral plane, corresponding to the spinal canal, or posterior to it, and consequently very little effect can be brought to bear on the cord by flexion. Indeed, the anatomical arrangement provides for a wide latitude of movement in all directions. In this apparatus it would be impossible to bring about curvature sufficient to cause any tension of the cord. The effect produced is possibly due to the stretching of the spinal nerves in the intervertebral foramina. Stretching of the sciatica for locomotor ataxia goes back to 1872, when it was strongly advocated by Nussbaum. This operation is often done, and only a day ago I read a report of several cases operated upon in Vienna, with asserted good results, so we may attribute something of the immediate improvement of subjective symptoms in locomotor ataxia treated by sus pension to nerve stretching.

The hyperæmia may also temporarily increase the activity and nutrition of the cord. I have noticed in cases subjected to this procedure that previous to going into the apparatus no knee-jerk could be obtained, but upon completion of a suspension of only two minutes duration, a distinct knee reflex might be observed. There is no question in my mind but that there is in this line of treatment some important action upon the nervous centers of the cord.

If you suspend a person in health, you will find that the deep reflexes are exaggerated thereby. It is important to have the patient seated when employing suspension, at least in the beginning of the treatment. This is an idea gained from Dr. Patrick of this city. In this position the process is less terrifying and troublesome for the patient, and if it is necessary to discontinue the suspension it can be instantly done. Should coma supervene, the patient is in such a position that you can readily aid him.

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I would again emphasize the dangers in this manœuvre, and call attention to the fact that at least five fatalities have resulted from it.

Dr. J. Frank: I think it would be an admirable method by which to treat the disease in its acute stage, but I do not think it has been proven to-night that it would be good in chronic cases. We all know that Pott's disease originates in the bone, and when it becomes chronic, the spaces between the bones become schirrhous or bony. The doctor showed on his board that he stretched a man one and a half or two inches, and he always speaks of stretching the spine, but does not speak of stretching the spaces between the ankle, the hip and the knee. It might be very good in acute cases; I can see that; but in chronic cases I do not think it would do any good whatever, because the healthy spaces will give before the diseased part will give one hair's breadth.

Dr. Charles F. Stillman: Mr. President, I think perhaps there is a slight misapprehension on the part of one or two persons, about the objects of this frame. For instance, a child lying upon its back with Pott's disease in the acute or chronic stage, if it is uncomfortable can be placed upon the recumbent frame and just sufficient traction exerted in the posterior direction in the proper axis to make that child comfortable, and there it is stopped. There is not the slightest attempt to break down the osseous tissue. Such a thing would be absurd. It could not be done with safety, nor could it be done with an apparatus such as this. In alluding to the anatomy I explained that the expansible and compressible nature of the intervertebral cartilages would be sufficient to prevent any injury to the osseous portion itself. Extension of the spine and forward pressure upon the part relieve the child from pain, but there should not be sufficient force exerted to break down osseous tissue whether it is the result of caries, fracture or any other abnormal process.

With regard to its use in locomotor ataxia: I believe that if a patient lies on this frame in the anterior curved position, face downward, and you fasten the feet firmly to the foot-piece, and fasten the head to the traction pulley, there is no necessity of exerting more than enough power to keep the patient comfortable, because the traction can be prolonged indefinitely without fatigue. With this method we combine rest and traction, without the torture and danger attending Sayre's suspension, for this provides rest in the first place, and the traction can be added simply to meet the indications in the case.

In conclusion, Mr. President, I wish to again thank the society for the kind courtesy they have extended to me.

Dr. J. Frank exhibited a large *Cysto-Sarcoma*, and said:

The tumor which I will presently show was removed on November 8, 1889, from Mrs. E. T., a married woman, 44 years old. She has eleven children living, and one child dead, which was born dead at full term. Never had any miscarriages nor abortions. Menstruated regularly. Was always a hard-working woman.

The first distinct recollection of having any trouble was last Christmas, when she began to have pains over her abdomen, and a feeling as though there were worms crawling around inside.

The following January she thought she was pregnant. Not feeling any movements by the following April, a physician was consulted and dropsy was diagnosed. I saw the patient for the first time in September, and the diagnosis arrived at was ovarian tumor.

The patient was not seen again until November 5, at which time she came to have an operation made. There had been marked changes since the woman was last seen. The abdomen had increased in size. The limbs and lower part of abdomen were œdematous.

When she was first seen these symptoms were not present. Arguing from the œdema, etc., it was thought that an incorrect diagnosis was arrived at, and as the woman's general condition at the time would not allow an operation, it was decided to remove the fluid for two purposes; one for a positive diagnosis, and secondly, to relieve the woman and place her in a better condition for operation.

On the 6th of November the woman was tapped, and 2½ gallons of a light olive greenish colored fluid was removed, which weighed 25 pounds. After the fluid was removed a tumor could be felt. The color of the fluid and the hardness of the mass which remained behind raised a question whether it was ovarian or some other kind of tumor. There were more doubts of its not being ovarian tumor. There was immediate relief after withdrawing the fluid. The patient was placed in bed. The next morning all the œdema had entirely disappeared. Therefore a few days later the operation was made.

The tumor was held down by old adhesions to the uterus, bladder, mesentery, omentum, ascending colon, some of the small intestines and the rectum. The sigmoid flexure looked as if it ran through the tumor. When the tumor was sufficiently loosened to ascertain where the pedicle was attached, it felt like a thick, broad band, extending across the pelvis, behind the uterus. As the pedicle felt broad, short and thick, and being so closely united to the uterus, it was decided to remove both the tumor and uterus, and leave the pedicle on the outside. A gum catheter was first worked around the uterus and tied.

The same was done with the tumor, but instead of the gum catheter a drainage tube was used. Grooved directors were pushed through the pedicle above the tubing to keep it from slipping; a drainage tube was placed behind the pedicle. The incision was united around the pedicle. The woman was taken from the operating table in a fair condition. Three hours after the operation she called for a bed-pan and passed her urine. First dressing was made the second day after operation. The uterus was hard and dry but the pedicle of the tumor was soft and flabby.

On the second day after the operation gas passed freely from the rectum. The third day after the operation vomiting set in and continued until she died, on Nov. 13th, five days after the operation.

The temperature on the second day was 99½ degrees F., the fourth day 99 1-10° F., and on the day of death 100 1-3° F.

Post Mortem: Wherever the surfaces of skin came together it was united. The skin that came in contact with pedicle of tumor was united in but few places. The integument that came in contact with the pedicle of uterus was more firmly united. The pedicle was attached to the entire surface of the soft parts of the true pelvis. When the tubing of the ped-

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icle was loosened it contained a fluid which resembled that which was aspirated.

The right ovary was atrophied. The left ovary could not be found. Microscopically, the tumor was diagnosed either a cystic sarcoma or cystic fibro-sarcoma. Microscopically, the tumor is diagnosed a cystic-fibro sarcoma. The question is, where did the tumor originate?

The tumor with the fluid weighed 33 lbs.

The second case which I wish to report is a large dermoid cyst, which I removed from my sister, Mrs. J. Garfinkle. She is 48 years old; has been married 34 years. Has given birth to six living children, and has had four miscarriages. The youngest living child is six years old.

Six years ago she began to feel pains in the left side, and soon after felt a knot as large as a goose egg. It kept on increasing in size until the entire abdominal cavity was distended.

Two years ago the tumor was aspirated by a physician in Texas and two gallons of a clear light-greenish fluid was drawn off.

Eight weeks ago an operation became necessary. With the assistance of Drs. Luken, Newman, Hall, Lawson, McCullom and Beard, the tumor, together with a large cystic ovary and the tube of the right side was removed. The fluid of the tumor was chocolet color. The microscope showed the fluid to contain cholesterine crystals, blood corpuscles, inflammatory cells and granular matter; on the inside of the tumor was lying a bundle of matted hair as large as a goose egg, and attached to the inner surface of the sac were large fœtal bones.

There were extensive and firm adhesions to the peritoneum, the greater portion of the omentum, a part of the ascending and transverse colon, and to the bladder.

The abdominal cavity was washed with sterilized water and a large glass drainage tube, with iodoform wicking drawn through it, was left in the abdomen five days. In two weeks and three days after the operation the patient left for home.

The temperature during the entire course was normal, with the exception of once, when for a day, it reached to 101° F.

The tumor with the fluid weighed 38 lbs. There are three reasons for reporting this case:

1st. Its large size.

2d. That a clear fluid was obtained on tapping two years before the operation, whilst at the time of the operation the cyst contained the chocolate colored fluid.

3d. That there were numerous adhesions, no doubt produced by the previous tapping.

Dr. H. T. Byford: Mr. President, I think, on examination of the tumor, that it is a fibro-sarcoma of the uterus spreading in the broad ligament. Its solid structure is, I think, different from the sarcomas we usually get in the ovary, which are very fibrous, or trabeculated, or very soft.

Dr. Frank, in closing the discussion, said: I might say that I am not of the same opinion as Dr. Byford, that the tumor originated in the uterus, because at the time of the operation where the uterus was attached to the tumor it was plainly to be seen that it was nothing more nor less than adhesive tissue. As the tumor grew upward it became attached to the uterus.

CHICAGO, Dec. 16, 1889.

The President, A. E. Hoadley, M. D., in the Chair.

Dr. C. T. Parkes. The first case I wish to show you, Mr. President, is this gentleman who some time ago received a severe burn to his face and eyes by an explosion of natural gas. As a result of the cicatricial contraction following this burn, he had complete ectropion of both lids in both eyes, so that the lids turned absolutely inside out and remained in that position all the time. He came to me some two or three weeks ago and I have attempted to restore the eyelids to their normal condition by transplantation according to Tiersch's method. I divided the cicatrices above the line of the cartilage, down to the loose tissue, both above and below, then fastened the eyelids together and taking strips of skin from his arm, transplanted them on to each surface. Now, as you see, he can shut his eyes and there is no attempt at aversion of the lids. You all know how difficult it is to control this bad condition of the eyelids by any sort of operation. Not only is the aversion perfectly corrected, but he can control the tears now without difficulty, and with a very slight operation I have no doubt that the cicatrix at the inner corner of the eye can be remedied. You notice that the skin is perfect in every way, very different from the cicatricial tissue.

The next case is this lady, whom I show to you as the best illustration I have yet had of the benefits of this method of treating large sores. She had a large epithelioma on the side of the head that had destroyed the scalp in the area you see. That was entirely removed by the knife, then the surface was destroyed by the cautery so as to be sure, if possible, to get rid of all manifestations of the disease, down, in some places, to the bone, uncovering the tendon of the temporal muscle and taking part of it away. It took some little time for this eschar of the cautery to separate, but as soon as it was a clear, healthy-looking granulating surface, the granulations were all scraped off and a transplantation taken from her arm, and now you see it is grown over. You can understand that a surface like that could not heal of its own accord in less than months or perhaps years, and here in two weeks it is perfectly healed.

Specimens of (*a*) ovaritis; (*b*) uterus removed for multiple fibroids.

Dr. H. T. Byford: These ovaries are interesting from the history of the case. Unless you examine them carefully you will probably discover almost nothing the matter. They are certainly very insignificant looking things to cause a patient to be bed-ridden for fourteen years. She had twice been in the Woman's Hospital, of Chicago, under treatment, where she improved temporarily, but never got out of bed so that she could stay out for any length of time. She constantly had pelvic symptoms, which were referrable largely to the ovaries, and yet physical examination revealed almost nothing but excessive hyperæsthesia. At the time I removed them the entire surface of the ovaries were composed of injected vessels and cicatricial contractions, giving a beautiful illustration of intense congestion and inflammation, and at the same time hardening of the ovaries.

This specimen is a large fibroid of the uterus. The interest in the case lies in the way the pedicle was managed. I sewed it up after the Berlin method;

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but instead of leaving it in its normal low position within the peritoneal cavity to seriously menace the life of the patient, or of stitching it aloft to the abdominal walls over the bladder to become a thing of bother and a plague forever, I concluded to leave it down in its place in the pelvis, yet treat it extra-peritoneally, and thus avoid the chief dangers of abdominal hysterectomy. This was quickly and easily done by separating the bladder from the cervix before sewing the stump, making an opening into the vagina through the anterior fornix, turning the sutured stump downward and forward into the vaginal canal, and transfixing it there by a pedicle needle introduced from the vagina. All that was necessary then was to sew the edge of the peritoneum that had been separated from the anterior uterine wall, to the posterior wall of the anteverted cervix, thus closing off the abdominal cavity over the stump and leaving the broad ligament ligatures in the abdominal cavity about the same as after a double ovariotomy. The operation as thus performed, ought not in ordinary cases, to be much more dangerous than a slowly-performed ovariotomy*. Gas was passed naturally per rectum on the second day. No opiates were given nor desired. When the stump is liberated from the pedicle needle, it is drawn up through the hole in the anterior vaginal fornix into a normal position behind the bladder and held there in the contracted cellular tissue.

Dr. H. T .Byford read a paper entitled *Three Peritoneal Sections performed upon the same patient within nine months—Vaginal Section, Ventral Section and Inguinal Section.* The following discussion took place.

Dr. A. Reeves Jackson: Mr. President, I will not take up the time of the society with extended remarks on these cases, interesting as they are, but I want to congratulate the operator upon their apparently successful issue. I would like to say, however, that I have some doubts as to that fourteen-year-old case. I cannot believe that the woman was sick for that length of time from the malposition or the condition of the ovaries that have been presented. There is room for much fallacy in cases of this kind. Sequences are not always consequences, and cases are on record in which patients have recovered from similar symptoms to those detailed when only a pretended operation was made, and in which the ovaries were not removed at all. The mental element which enters into some of these long-standing cases can hardly be over-estimated, and the fact of undergoing an operation of any kind will sometimes do a great deal toward the removal of subjective symptoms. I have yet to be convinced that an ovary which is no larger than the one that is presented here is ever the cause of such serious and constant symptoms. Atrophied ovaries, like atrophied testicles, cease to be troublesome. Certainly we cannot always estimate the importance of symptoms or their intensity, from the size or amount of affected tissue only, yet in cases of this kind I always feel doubtful about the propriety of attributing them to disease of an organ in which, as confessed here, there is nothing pathological to be seen in the specimen removed. The retention of such ovaries is quite compatible with perfect health.

*The patient recovered without a bad symytom except a rise of temperature at the end of two weeks, which immediately subsided upon the removal of suppurating silk sutures from the cervix. She was out of bed before the end of three weeks (Jan. 6, 1890.

Dr. Bayard Holmes: I would like to speak about one point. I refer to the fact that operations are undertaken to remedy faults by the removal of interpelvic organs when the surroundings of the patient have not been properly considered. It is well known that women are accustomed to surround their abdomens with an inflexible armament, which renders the abdominal wall perfectly immovable. Under such circumstances the brunt of the changes in intra-abdominal pressure are borne by the pelvic floor alone. Whether or not the movement up and down of the pelvic organ is sufficient to keep up an inflammation begun in them I do not know, but it seems to me that before operations are made for an removal of pelvic organs, it would be well at least to consider the abandonment for a time of this particular instrument of torture with which fashion begirts women.

Dr. Byford, in closing the discussion, said: I omitted to give all the points in the fibroid case. The patient is 31 years old, married two years. Although she had noticed the tumor three years ago, she has been pregnant and miscarried at six months since marriage. I believe that for a tumor of this large size, the removal of the ovaries does but little good, especially where it is growing rapidly.

With regard to the other patient, when I opened the abdominal cavity and put in my two fingers I told the physician that there was nothing there to cause this trouble; I made the remark that she ought to be treated by a christian scientist doctor, meaning that her symptoms were probably chronic invalidism. He said that she had been treated by christian science and by every other available method. I do not think that the fact that the ovaries were not enlarged, would make them less liable to cause severe symptoms. I have, in other cases, removed similar ovaries connected with similar symptoms, with gratifying results.

Dr. A. Reeves Jackson read the following paper *On the Choice of Methods in the Treatment of Uterine Cancer.*

It is now very generally believed that cancer of the uterus is a local disease, and that at some stage of its existence it may be permanently removed. Likewise, it is understood that the curable period in the history of the disease is usually a very early one, and that the most favorable time for operative measures has very frequently passed before the presence of the disease is known or its nature recognized.

Equally true with these propositions is a third, namely, that in order to effect a permanent cure, the removal of the disease must be complete. If any portion be permitted to remain, recurrence will surely manifest itself.

The modern methods by which the removal of uterine cancer is assayed are chiefly three in number, as follows:

1. Amputation or excision of the diseased structures by knife, scissors or curette.
2. Actual or chemical cauterization.
3. Extirpation of the entire uterus.

The first and second of these methods may of course be variously combined.

I desire to discuss and compare these plans with the view of determining the question which of them should be preferred for the radical treatment of cancer of the uterus?

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If the theory of local origin and limitation, upon which all of these methods are based, be true, it would seem unimportant, so far as permanency of result is concerned, which method be chosen, the only essential factor being thoroughness of removal, and the operator might feel at liberty to choose the method which experience may have shown to be the safer in immediate results. And why not?

For various reasons known to themselves, certain operators have given preference apparently to one or other of the aforementioned methods, and adopted it to the entire or comparative exclusion of the others; and as a result we are now in possession of a sufficiently large number of observations, extending over a sufficient length of time to enable us, with a fair degree of accuracy, to properly estimate their relative value in respect both to their immediate mortality and their remote results—the latter as bearing especially upon the all-important question of recurrence or reappearance of the disease.

PARTIAL REMOVAL OF THE UTERUS.

In 1882, Dr. W. H. Baker, of Boston,[1] reported the result of high amputation performed in twelve cases of cancer of the uterus, in which it was hoped the entire disease could be removed. No death occurred from the operation.

In one case the disease returned after two months, and death occurred in seven months. In another the disease returned almost immediately, and death took place in fifteen months; a third died three months after the operation; in a fourth recurrence took place nine mouths after operation—date of death not sttaed.

In 1888, at the meeting of the American Gynœcological Society, Dr. Baker stated that five of these women were living and well at periods of from six to ten years after operation.

At the same meeting, Dr. Thad. P. Reamy[2] reported the results which he had obtained by amputation in 55 cases.

These were selected from about 300 cases of uterine cancer, of all grades, because of the apparent possibility in them of entirely removing the diseased structures. There were two deaths—a mortality of 3.6 per cent.

From Dr. Reamy's report it appears that in 2 of the cases the ultimate result was unknown; in 14 there was recurrence of the disease within one year, and subsequent death; in 8 there was recurrence in two years; in 4 there was recurrence at periods varying from two to four years; in 20 there was no recurrence, the periods of immunity being from two to eight years, and two of the patients included in the number died from other causes.

Of the entire number, three others died from other causes, and were free from recurrence of cancer at 12, 13 and 14 months respectively after operation.

In the Annals of Gynæcology for January, 1889, Verneuil records his experience with this method of treatment.

His cases were 22 in number. There were 2 deaths. In 9 of the cases there was recurrence of cancer in the cervix, while in 12 the cervix remained free from disease, although one of the patients was under observation for seven years.

Verneuil classifies his cases into two series—the first embracing the cases operated upon down to the end of 1884, being 17 in number, and the second series including those operated upon since 1884, five in number. The average length of life after operation in the first series was 23 months, and in the second 29 months.

In 1887 Hofmeier published, in the *American Journal of Obstetrics*, a table of 96 cases in which partial amputation was done at Berlin. The mortality was 7.4 per cent. Nineteen of these patients were living at the end of four years after operation.

TABLE SHOWING THE RESULTS IN THIRTY CASES OF HIGH AMPUTATION OF THE UTERUS, FOR CANCER.

No.	Initial of Patients Name.	Residence.	Age	Date of Operation.	Result.	Remarks.
1	R. M.	Englewood, Ill.	41	Mar. 17, 1882.	D	Death on sixth day.
2	K. M.	Chicago.	45	April 17, 1883.	R	Died eight months after, from recurrence of disease.
3	S. M.	Chicago.	45	June 16, 1883.	R	Recurrence in four months. Date of death not known.
4	N. A. L.	Ottawa, Ill.	32	August 15, 1883.	R	Had child two years later. Alive and well in October, 1889, six years and two months after the operation.
5	U. S.	——.	54	Jan. 29, 1884.	R	Was perfectly well June, 1887, three years and seven months after operation. No later history
6	T. Y.	Chicago.	41	Feb. 6, 1884.	R	No symptoms of recurrence November 1, 1889, five years and nine months.
7	G. M.	Chicago.	57	April 12, 1884.	R	Recurrence in eleven months. Death in fifteen months.
8	L. G.	Chicago.	26	April 14, 1884.	R	Recurrence in two months. Death in four months.
9	O. S.	Chicago.	41	May 25, 1884.	D	Death on fifth day.
10	J. M.	Mattoon, Ill.	38	May 5, 1885.	R	Disease recurred in parametria. Death four and one-half months after operation.
11	A. M.	Chicago.	48	May 30, 1885.	R	No recurrence. Health good August, 1889, four years and three months after operation.
12	H. H.	Chicago.	72	June 17, 1885.	R	Subsequent history unknown.
13	M. W.	Dubuque, Iowa	50	Sept. 23, 1885.	R	No return. Health good four years and two months after operation.
14	M. J.	Chicago.	40	Nov. 25, 1885.	R	Well and free from recurrence four years after.
15	R. M.	Leav'nworth Ks	50	Dec. 2, 1885.	R	Well February 11, 1886. No later report.
16	L. H.	Chicago.	47	May 8, 1886.	R	Recurrence in five months. Death in eight months.
17	A. C.	Chicago.	51	June 24, 1886.	R	Death in nine months from recurrence.
18	R. L.	Dubuque, Iowa.	65	Oct. 23, 1886.	R	No recurrence three years after.
19	E. W.	Aurora, Ill.	50	Feb. 14, 1886.	R	No recurrence November, 1889, two years and nine months.
20	R. S.	Chicago.	40	Feb. 22, 1887.	R	Well and free from return at end of two years and eight mos.
21	J. L.	Chicago.	38	March 10, 1887.	R	No return, and health good two years and seven months later.
22	E. L. T.	Walkerton, Ind	42	Dec. 21, 1887.	R	Recurrence in four months. Date of death unknown.
23	E. K.	Chicago.	40	April 30, 1888.	R	Recurrence and death in six months.
24	I. J.	Chicago.	64	May 3, 1888.	R	No recurrence in September, 1889, one year and three months.
25	A. E. W.	Oskaloosa, Ia.	57	May 22, 1888.	R	Died three months later.
26	M. M.	Ft. Wayne, Ind	54	July 14, 1888.	R	Recurrence and death nine months later.
27	J. H.	Evanston, Ill.	55	May 17, 1889.	R	Disease not all removed. Symptoms continue.
28	E. J.	Chicago.	42	July 29, 1889.	R	Symptoms of recurrence at four months
29	E. P.	Chicago.	49	Oct, 29, 1889.	R	Too soon to know remote results.
30	L. M. W.	Waverly, Iowa.	65	Nov, 8, 1889.	R	Too soon to know remote results.

[1] Amer. Jl. Obs., 1882, p. 265. [2] Transactions, 1888, p. 185.

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Since March, 1882, I have performed partial amputation of the uterus for cancer in 30 cases. Two deaths resulted directly from the operation—a mortality of 6.6 per cent. Of the 28 who recovered, 11 are living and were in good health very recently.

The periods which have elapsed since the date of operation in these cases are as follows: In one, six years and three months; one, five years and nine months; three, over four years; one, over three years; three, over two and a half years.

In addition to the foregoing, two others are living, but as the operations were made upon them less than two years ago, I have not included them.

Some of the cases are embodied in this report only for their bearing on the question of immediate mortality, the disease having been so far advanced at the time of the operation as to render it certain that the affected tissues could not be safely removed, and in which amputation, with accompanying or subsequent curetting or cauterization, was used only as the most efficient means of palliation, Such cases were numbers 1, 3, 8, 16, 22, 25 and 26 of the table.

Deducting these seven and the two deaths, nine in all, from the entire number, it leaves 21 from which to compute the ultimate result of the operation. As already stated, 9 of these are alive and well, from two and a half to more than six years after operation.

From the foregoing table it will be observed that the earliest period in which symptoms of recurrence appeared after operation was four weeks, in a single case, and I am quite sure I did not, in that instance, remove all of the disease. Indeed, in very many cases—I think I may say in all—it is impossible to know in advance of or during an operation the extent of cancerous involvement, and hence, it is equally impossible to know, except through lapse of time, whether an operation will be or has been radical. And this applies to all operative methods. Whenever symptoms of so-called recurrence are manifested within a few months after an operation, it may very generally be accepted that the fact indicates a continuance rather than a recurrence, and that the disease in such cases has been partially removed. But while this inability to define the anatomical limits of cancer must always affect the prognosis of an operation, it should not deter from an attempt at removal of the disease in any case in which removal may seem feasible; and it should admonish us to be as thorough in operating as may be consistent with the immediate safety of the patient.

Cauterization. In the *Lancet* for August 2, 1884, there was published an abstract of a report made by Pawlik, of 136 cases of cancer of the cervix, which had been treated by means of galvanic cautery at Vienna.

The report embraced a period of 23 years. Of the entire number, ten died soon after the operation, making a mortality of 6.6 per cent.

Of the 126 survivors 33 were in good health and free from recurrence at periods varying from 2 to 21 years.

At the annual meeting of the American Gynæcological Society, held at Boston in September of the current year, Dr. John Byrne, of Brooklyn, read a paper embodying a report of 367 cases of uterine cancer treated by the galvanic cautery, the observation extending over a period of twenty years. The cases being classified according to the portion of the organ affected, the vaginal portion of the cervix was involved in 59; the entire cervix in 81; both cervix and body in 219, the body alone in 8. The mortality of the operation was *less than 1 per cent.*

The period of exemption from recurrence varied greatly, according to the anatomical seat of the disease, being greatest in those cases in which it was confined to the vaginal portion of the cervix, and least in those in which the corpus was alone involved. In 36 cases of the former, which were kept under observation, the average period of freedom from return was 8 years and 7 months, 30 remaining well over five years. In 8 cases, in which the corpus was alone diseased, the average period of exemption was two years. In more than one-half of the entire number of cases treated there was freedom from symptomatic return for from 3 to 18 years.

HYSTERECTOMY.

The removal of the entire uterus for cancer has been performed probably not less than 1,200 to 1,500 times. At first the organ was removed by laparotomy, but the operation was attended by such a frightful mortality—not less than 72 per cent—that it is no longer done when the vaginal method is feasible, the latter being vastly safer.

Dr. Sara E. Post has compiled some extremely valuable statistics bearing upon this point, which were published in the *American Journal of Obstetrics* for 1887. The table comprised 722 cases, and showed that the mortality of the operation was 24 per cent; and although the death rate is steadily diminishing in the hands of a few operators who have had exceptionally large experience, this statement is hardly true concerning the great mass of operators. Indeed, I have no doubt that if all the cases were published, it would appear that the mortality of the operation is now and always has been considerably over 30 per cent. But, accepting the published statistics as correct, the mortality of hysterectomy, as compared with partial amputation, is four or five times greater, and as compared with cauterization, eight or ten times greater.

However, the advocates of hysterectomy claim, that as a compensation for this greater death rate, the disease is much more likely to be wholly removed by it, and thus freedom from recurrence and prolongation of life more certainly secured.

The apparent reasonableness of this claim cannot be denied, but unfortunately, observed facts now in great number, show conclusively its fallacious character.

For example, in 1886 Dr. Post presented a table showing the results of 137 cases. Forty of the patients died—mortality 29 per cent.

Of the 97 survivors, only 18 were alive at the end of eighteen months to two years. In Pawlik's 136 cases—one less in number—with a mortality of 10, there were 33 alive and well at from 2 to 21 years. Hofmeier, in the report already referred to of 96 cases of partial amputation, compared the mature results with those in 33 cases in which the entire organ was removed. While 19 of those in whom partial amputation had been done were alive at the end of four years, all of the others were dead.

In Fritsch's 60 cases with 7 deaths, only 2 were alive after three years. Terrier has recently reported 18 cases. There were 4 immediate deaths; in 3 cases

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the disease could not be removed, and of the 11 who recovered, only 4 were free from recurrence at the end of two years.

At the last International Medical Congress, Martin reported the subsequent histories of 214 women who had survived the operation. Of these, Leopold had 42, Schrœder 46, Fritsch 60, and Martin 66.

Of all this number, only 5 were alive after 4 years. Hence we may say that the successful removal of a cancerous uterus is a very different thing from the successful removal of a uterine cancer.

Having considered the relations which each of the three prominent methods of dealing with cancer of the uterus sustains to the questions of immediate mortality and remote results, it is not difficult to fix their status.

Partial amputation is doubtless a beneficial procedure, with a low rate of mortality, probably not exceeding five or six per cent. It has in many cases removed the disease permanently, and in others stayed its progress and prolonged life.

In a still greater degree actual cauterization has been shown to be potent for good. The recently published results obtained by Dr. Byrne, are wholly without parallel, both in the extremely low death rate and the greatly prolonged immunity from disease.

Dr. Byrne's report is unquestionably by far the most favorable showing that has ever been made concerning any method of treatment for uterine cancer in any considerable number of cases; and as such it distinctly challenges our consideration.

Hysterectomy is a ghastly failure. Not only has it given worse results, both immediate and remote, than any other method of treatment for cancer of the uterus, but I affirm that it is worse than no treatment at all. A hundred women with uterine cancer will live a greater aggregate of years if let alone, than if subjected to hysterectomy.

And now, as candid physicians with an honest appreciation of the duties we owe to our patients who place their trust in our integrity as well as in our skill; as men and women willing to be guided by the logic of facts rather than by our predilections or falsely founded preferences, what should be our attitude in this matter? If we desire to secure the best interests of a patient suffering with uterine cancer, what method of treatment should we choose for her? Should it be one which with the least risk promises the greatest length of life? or, one which with the greater risk promises the shorter period of immunity from disease and death?

Dr. T. J. Watkins: In deciding upon an operation for the treatment of uterine carcinoma, each case should be studied individually, for the result of the operation principally depends upon the advance of the disease. If the disease has affected the broad ligaments or vaginal tissues to any extent, it would seem almost fallacy to perform vaginal hysterectomy. Vaginal hysterectomy should not be put off until the disease is quite far advanced. The time to do the operation is just as soon as the disease is surely diagnosed, and if the operation can be done with a mortality of five per cent or less, it gives a better chance to the patient than amputation. Amputation, the essayist tells us, gives a mortality of about that per cent. In considering the galvanic cautery, I think it is a mistake to overlook the after effects that might arise; that is the cicatricial contraction. When Sims used the galvano-cautery so freely for supposed ulcer of the cervix, there was a great deal of harm resulted from the cicatricial contraction, and where it is used for uterine cancer, if the patient does recover, the disturbance is great from cicatricial contraction.

From the percentage of recoveries following amputation and vaginal hysterectomy, as given by Dr. Jackson and Dr. Byford, vaginal hysterectomy is the less dangerous to life, and the tendency to recurrence of disease must be much less after extirpation. If vaginal hysterectomy is employed, it should be performed as soon as the diagnosis can be positively made, and *should not* be postponed until other measures have been used and have failed to eradicate the disease; for then the broad ligaments or vaginal walls probably will be seriously damaged by the carcinoma.

In considering the application of the galvano-cautery in the treatment of uterine carcinoma, the cicatricial contraction that always follows cauterization should be noted. Cicatricial contraction may produce serious malposition of the uterus and disease of the bladder and kidneys may result. Cases are not uncommon where sufficient cicatrization has followed the use of this cautery, to produce severe suffering.

Dr. Byford: I am surprised to hear that the mortality of amputation of the cervix (by experts) is over 5 per cent. I am also surprised that, although the professor has taken this year's transactions of the Gynæcological Society and analyzed them with reference to amputation, his reports of the mortality of vaginal hysterectomy go back to Dr. Post's old table, and he only mentions one operator whose statistics are more recent.

Leopold has had over 80 cases, with a mortality of 5 per cent. Fritz' mortality is below 10 per cent. I have operated upon 18 cases, and have only lost one patient. Several operators have had quite a number of cases without a death. Dr. Post's statistics include inexperienced early operators, while Dr. Jackson's statistics of amputation are based upon the cases of experienced operators, brought up to date. We must remember that vaginal hysterectomy is, as now performed, about 14 years old, whereas the other operation is much older; hence, to compare statistics must be misleading in favor of the older operation.

I think if vaginal hysterectomy were only done by specialists properly trained—and we know that Dr. Jackson, Dr. Veuillet and Dr. Reamy occupy that rank in amputating the cervix—that the mortality would not be far from 5 per cent. Dr. Burn's statistics are certainly exceptional, but the fact that many of these cases go back to the time when we did not know cancer from other diseases, would make us suspect that his cases were not all of cancer.

The fact that amputation is performed upon cases that are discovered early, while hysterectomy is so often reserved for the advanced cases, would indicate that if both have a mortality of about 5 per cent, hysterectomy might possibly be a safer operation than amputation. The broad ligaments certainly make better stumps than the mutilated ones. As to the return of the disease, is it reasonable to suppose, with the essayist, that nearly all the cases that have the whole uterus taken out will have a return, and nearly all get permanently well in whom only a part of the uterus is taken out?

The facts have not been properly sifted, I think. This could only be true in case these amputations

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were done in the very beginning, probably in many cases that are not cancer at all, and the hysterectomies were done too late. We can get further away from the uterus in total extirpation, and can dispense with the barbarous cautery.

It is a fact that there are few cases where cancer has been found to be in the cervix and at the same time high up inside the uterus; yet in some uteri that I removed slender unsuspected prolongations of diseased tissue would go up beyond where amputation could have radically removed it.

I think the wholesale condemnation of vaginal hysterectomy is at variance with modern views, and the fact that the mortality has come down so low of late years shows that it is a valuable and safe operation. Were I to treat intra-uterine carcinoma, or sarcoma, still confined to the uterus, by curetting or anything short of a total extirpation, I should ever afterward consider myself a criminal.

Dr. Jackson, in closing the discussion, said: The object of treatment in uterine cancer is two-fold, namely: To palliate symptoms or to remove the disease. Any method of treatment, therefore, surgical or medical, that does not prove capable of being curative or palliative, does not deserve recognition and does not get it long if it stands upon its merits only. The object desired in treating uterine cancer is not the removal of an organ but the removal of the disease. If hysterectomy does not do this, if the disease returns and the patient dies of it, the treatment, whether moderate in mortality or not, should not be preferred to other methods of treatment which give a longer lease of life, and which remove symptoms for a longer time. The facts concerning the mortality of hysterectomy as I have presented them here, are correct so far as I know them. I know of no more recent report upon the subject covering a large class of cases, than that of Dr. Post. I am free to admit that my successful friend, Dr. Byford, and others, may have had series of small numbers of cases with a low rate of mortality, but we know that all sorts of men, even the inexperienced and the inexpert, may and do get the consent of patients to undergo hysterectomy as well as other operations. The experts do not get all the cases, and we must estimate the mortality from the death rate in the hands of all those who do the operation. Once I made a collection of cases that had occurred in this city alone; they were twelve in number, and the death rate was over 50 per cent. This fact does not stand alone; the results have been as bad in other places. The truth is, and we know it, that the fatal cases in the hands of men who do not have many, are not published. Sometimes this is true of those who do have many. A successful operation is at once reported to a medical society or a report of it goes to the first medical journal that will take it. If the result be unsuccessful, the report can wait longer. It frequently waits forever. I have shown from large numbers of cases, hundreds, indeed, of all kinds, that the prolongation of life is greater under cauterization than under any other method. Byrne's success is exceptional, certainly, but it covers 400 cases, and the mortality is marvelously low and the immunity from return marvelously long. Suppose hysterectomy should have a low mortality, say less than the present 24 per cent, it has been shown that length of life is greater after both supravaginal amputation and cauterization. I would like to know of any comprehensive facts, now or at any time, that will invalidate this statement. If we are to be governed and guided by facts and not predilections in our conduct, we should do honestly what those facts indicate. In cancer of the uterus, the extension of the disease from the point which it first attacks in 95 cases out of a hundred is not upward but lateral, and when the removal of the cervix is as high as the internal os and as far out as you can safely go and then does not remove the disease, the chances are that hysterectomy will not do it, and four-fifths of an organ is removed that is not diseased at all, and the mortality is doubled or quadrupled. Hysterectomy does not do any more in cancer of the cervix than high amputation or cauterization may do.

Dr. J. S. Knox read a paper on *The Present Status of the Treatment of Diphtheria.*

The treatment of diphtheria in the past decade has been dominated and modified by an extending belief in its microbic character, and in its early systemic infection of the patient.

It has been positively settled that the disease follows lines of travel and of inter-communication; also, that public schools and places of common general assembly are the starting points of epidemics, and that, in sewered towns and cities, diphtheria has become endemic instead of sporadic. So positive is the conviction of the contagious and infectious character of diphtheria, that there are but few places where boards of health do not now insist upon the isolation of the patient, thorough subsequent disinfection, and often the warning placard.

In spite of this universal recognition of the enthetic character of diphtheria, and an increasingly intelligent use of antisepsis, the disease has annually extended its ravages, and has domiciled itself in new localities. Thus the demand has been maintained for more potent methods and a more satisfactory specific treatment.

In addition, the observed uncertain percentage of mortality from the disease, in small degree dependent upon the virulence of the local throat manifestations, and the increasing evidence of preceding or early infection of the general system, with all the depressing symptoms of taxæmia, have shifted the majority from those who believe in diphtheria as primarily and with care a continued local affection, over to those who recognize it as primarily or very early a systemic poisoning.

The modifications of the treatment of diphtheria have, therefore, moved in three directions:

(1.) Of a general rejection of remedies and methods of negative or doubtful germicidal value.

(2.) Of a persistent search for a specific antiseptic treatment, local and general.

(3.) Of a complete substitution of sustaining and stimulating methods for those depleting and depressing.

He who, to-day, does not run his treatment on these lines is considered unscientific and puerile.

A summary of these three modifications of the treatment of diphtheria, will give us the treatment of to-day:

1. It is interesting to note how in this sifting process certain remedies of former great repute have gradually fallen into disuse. Chief of these is the chlorate of potassium.

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The large percentage of oxygen contained in it led to its early use as an oxidizing agent, and at one time it entered into nearly every prescription written for the treatment of diphtheria. Its pernicious effects on the kidneys, especially when given freely in scarlet fever and diphtheria, soon came to be noticed, and was strongly emphasized by the sad death of Dr. Fountain, of Iowa, from taking an ounce dose of the drug.

Later on, like all potash salts, it was observed to have a depressing effect upon the heart muscles. Still later it was proved to not part with its oxygen in the system; and lastly, though a good deodorizing agent, it was found to possess but feeble germicidal properties.

Thus gradually the virtues of this drug have been denied, and it has fallen into disuse. To-day it is exhibited in the treatment of diphtheria solely as a mouth-wash or deodorizing gargle, or to eliminate chlorine in combination with hydrochloric acid, and the tincture of the chloride of iron, as in the famous prescriptions of New York physicians.

The salts of quinia have suffered a like decadence. Known to be strongly anti-zymotic, tonic and febrifuge, their use, like that of the potassium chlorate, soon became general. Possessing positive properties they have been more slowly abandoned, yet their negative properties are steadily depreciating their value. The salts of quinia to be actively anti-zymotic must be in solution. So bitter is their taste that it is almost impossible with young patients, to successfully use them locally. Nor is it now necessary when we have pleasanter and equally active substitutes. Again though tonic they are irritant to the stomach, and often induce vomiting when nutrition is most necessary. Lastly, the febrifuge property of quinia lies only in the large dose, acting as a central nerve depressant. Such administration is forbidden in so debilitating a disease as diphtheria.

Thus in the treatment of this disease, the use of quinia is being eliminated by a process of substitution. It is not a want of virtue but a want of fitness.

In regard to boric acid, alum, calomel, the aromatics, alkalies, vegetable acids, poulticing, steaming, etc., a few words will state the reason for their abandonment. They were found inefficient. In meeting so vicious a disease, inefficiency is a curse—it has blighted them all.

2. The persistent search for a specific treatment of diphtheria has revealed its pathology. With this knowledge an entirely new list of remedies has been substituted. Antiseptics is their classification; antisepsis is the alpha and omega of their administration; antisepsis limits the contagion; antisepsis attacks the local manifestations; antisepsis confronts the systemic invasion.

We thus have a prophylactic, local and constitutional (or internal) antiseptic treatment.

The preventive treatment of diphtheria is based upon its microbic, contagious and infectious character.

Complete isolation of the sick is imperatively demanded. Other members of the family are best removed, but when remaining, should be daily inspected by the physician. They should also daily use some disinfecting gargle. Lime waters, carbolized (2 per cent), or solution of mercuric bichloride (1-5000), being probably the best. In addition, quinine or the tr. chloride of iron should be taken in tonic doses.

The physicians and attendants of the sick should practice personal disinfection repeatedly, lest they become means of communication of the disease to the well.

All discharges from the sick must be made inocuous. The best disinfectants are the mercuric bichloride 1-5000, fire and the chlorides.

Free ventilation must be maintained in the sick room. Its air can, to some extent, be kept pure by repeatedly spraying it with alcohol or corrosive sublimate solution, or vaporizing tar and turpentine, or hanging cloths saturated with turpentine about the apartment.

The use of small quantities of carbolic acid or chloride of lime in the sick room or house is absurd, and leads to carelessness from false security. It accomplishes not the slightest disinfection.

After recovery or death from diphtheria, thorough disinfection of the room and furniture must be secured. Probably the fumes of burning sulphur are the easiest obtained, and most satisfactory. Dr. Squibbs, of Brooklyn, makes a valuable suggestion as to their use, viz: that sulphur should be burned in the presence of watery vapor. I quote his words: "When sulphur is burned in a closed chamber the dioxide is formed by condensing two molecules of oxygen from the air upon each molecule of sulphur, and a heavy gas is the result, which tends to settle at the bottom of the chamber, and to run out through the lower cracks; any moisture present is at once seized by the rather inactive anhydride, first forming sulphurous acid and then by oxidation from the air, sulphuric acid: it is during these changes that its power is exerted. If there be no moisture supplied to the burning sulphur, that which was present in the air, and the surfaces of the chamber is soon used up, and the dry gas remains indefinitely in a comparatively inactive, ineffective condition."

From three to four pounds of sulphur are required for an ordinary bed chamber, and the room should remain subject to the fumes at least eight hours.

The local treatment to-day is either germicidal or solvent or both combined. The drugs that are to-day best endorsed and most commonly used locally, are the bichloride of mercury, beniodide of mercury, sulphurous acid, turpentine alcohol, tr. chloride of iron, salicylic acid, eucalyptus globules, and tannin for their germicidal effect; and lime water, lactic acid, papayotin, pepsin, and trypsin for their solvent effect on the membrane.

The bi-chloride of mercury is used in solutions from 1-000 to 1-5000. This is sprayed into the throat with an atomizer of rubber parts, or applied directly with a brush. It, and its kindred salt, the biniodide, are no doubt the most powerful germicides we have. Objection has been made to their poisonous properties when swallowed by young children. The freedom of our journals however, from reports of its tonic or injurious action leads to the belief that the objection is overstated. The application has been made frequently with the best of results.

Sulphuric acid, fresh and unoxidized, is a powerful germicide. In my hands it has been the best of local applications. I use the following formula: Equal parts of sulphurous acid, Monsel's solution, alcohol and glycerine—to be applied with a brush each one-half to two hours. The combination is non-poisonous, non-irritating, and each ingredient is a germicide.

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Usually in thirty-six hours it entirely destroys the membrane.

Turpentine has been used with excellent results, especially in the fibrinous form of diphtheria. It is germicidal and peculiarly efficatious in preventing the spread of membrane. The method of use has been directly by the atomizer, or by vaporizing on boiling water, or by keeping the air of the chamber saturated with it through clothes hung about the apartment. My impression is that sufficient attention has not been given to this drug.

Alcohol has been successfully used locally, diluted according to age, both as a spray and a gargle.

The local use of the tincture of chloride of iron has been recommended in conjunction with chlorate of potash and dilute hydrochloric acid. A good formula is as follows:

℞ Tr. Ferr. Chloridi.....ʒ 3
Potass. Chloratis.....ʒ 1
Acidi Hydrochlor. Dilut.....m10
Glycerine, qs. ad.....ʒ 4
M. Use locally with throat brush each hour.

The belief is that free chlorine is evolved.

Salicylic acid is recommended as a local application. It is best used in solution (8 per cent) equal parts of the biborate of soda are necessary to make the solution in water. It is freely soluble in alcohol and a few drops of the essential oil of eucalyptus may with advantage be added. These solutions are used with the atomizer or brush freely and frequently.

It must be remembered that salicylic acid has a depressing action on the heart, often intensified by personal idiosyncrasy.

Tannin is commended. Used by insufflation, or combined with glycerine and alcohol, and applied. It destroys fetor, coagulates the membrane, and arrests hæmorrhage.

For hæmorrhage, especially nasal, it is best used pure, with an insufflator.

The solution or removal of the diphtheretic membrane formerly insisted on, is not to-day considered imperative. Lime water, lactic acid, pepsin, trypsin and papayotin are still used, but their solvent action is considered of far less importance than the germicidal effect of other drugs.

The forcible removal of the membrane by detachment with instruments, scraping with swab or fingers, or by escharotics, is universally condemned. The internal medicinal treatment of diphtheria is based upon a belief in the microbic and septic systemic infection.

Every case of diphtheria becomes, sooner or later, one of general infection. The internal medication is therefore growing daily more akin to the local treatment.

The tincture of the chloride of iron has steadily maintained its popularity. It is the only drug of the old regime that is used to-day. This certifies to its value.

The atoxic effect of large doses of the mercuric bichloride given internally for sepsis has been amply demonstrated. That the mercuric salt combines in the system with the ptomainic alkaloids, rendering both inert (just as nitrate of silver combines with albumen), is believed, but not proven. We only know that toxic doses of the bichloride of mercury have been given hourly for days under septic conditions, with safety and eminent satisfaction. The 1-5000 solution of corrosive sublimate is the popular internal remedy of to-day. It acts also locally when swallowed, and is taken and swallowed by the youngest children.

Salicylic acid and salicylate of soda in appropriate doses complete the list of remedies to-day relied upon for internal administration.

Nasal diphtheria is specially fatal, on account of the large number of absorbent glands present. It is indicated by external swelling of the throat. Its worst complication is hæmorrhage.

Nasal diphtheria is best treated by irrigations with saturated solution of boric acid, or 1-10000 of mercuric bichloride, used with the fountain syringe. Of course if the solution is swallowed, instead of flowing through the opposite nostril, the boric acid solution should be preferred.

Nasal hæmorrhage is best managed by insufflations of tannin.

3. The general recognition of the asthenic character of diphtheria is shown by the constantly recurring advice to give alcohol abundantly and early, and to maintain the nutrition of the patient.

Don't wait for signs of exhaustion, but begin with stimulation at once. In very young patients I have found cologne spirits, a deoderized alcohol, often unconsciously taken in milk. It is double the strength of whisky and nearly tasteless and odorless.

In the administration of stimulants the limit of toleration is usually the limit of ingestion.

Concentrated foods, like the peptonoids, broths and milk, should be given to the full power of assimilation. Beyond that they are an injury.

The heart failure of diphtheria is anticipated by the administration of digitalis and nux vomica, and met with hypodermics of alcohol.

Tracheotomy and intubation should be done before laryngeal stenosis becomes exhausting.

Dr. C. S. Baker was doubtful whether fumigation by sulphur, as ordinarily conducted, was of much utility. He emphasized the fact, to be effectual it must be *thoroughly* done, along with thorough ventilation.

Dr. Henry Gradle: The question of prophylaxis, in a disease as fatal and spreading as diphtheria, seems to be sufficiently important to warrant a few moments spent in its consideration. Since Dr. Knox is no longer present we can hardly criticise his remarks to any extent, but some of the precautions he referred to, seemed of doubtful utility, and the arguments used by Dr. Bacon are quite proper.

Since our views on these subjects have become more distinctly formulated, every physician, of course, has become more or less impressed with the necesisty of killing germs supposed to pass from a diseased individual to another person. Of an antisetic we demand, first of all, a substance that will certainly kill germs, and in using it practically we must further demand that it finds access to the germs. A germ that is only two or three micromillimeters in size is safe from its action if the antiseptic is separated from it by only a space equal to its own dimensions, and cannot come into actual contact with it. Finally, the germicide agent must be granted a sufficient time to exert its effects.

Let us see what we can expect in the way of disinfection as ordinarily practiced in the sick room. Sulphurous acid has been used for a long period of time, and is usually considered sufficient if no new case of

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disease can be traced to that sick room. But it is difficult to trace a case in the majority of instances; we do not know where the patient received the infection. Experiments make by Kort, of Berlin, and extended by Prudden, of New York, have shown that sulphurous acid, under the most favorable circumstances, and in concentration which is not practicable in inhabited rooms, and even continued for a length of time as would require the utmost vigilance to maintain on account of its diffusibility, is really not sufficient to destroy all germs.

Under these circumstances, with all the advantages on its side, if it fails to destroy germs we may as well drop the idea that a few grains of sulphur placed on a shovel of hot coals and carried around a room will be of any service. It is very questionable whether the more thorough disinfection with sulphur, as practiced by the Board of Health in this city, is of any utility at all, and amateur attempts made with sulphur ought to be abandoned as thoroughly misleading in their idea of alleged safety.

What other means have me? Of course we know that a great many disinfectants will destroy the germs of diphtheria if brought into contact with them, but we cannot use these disinfectants with much freedom in the sick room; what we must do is to avoid the transmission of germs. If the child has had a spoon in its hand, or has just eaten from a plate, or touched something with its soiled fingers, these articles ought to be disinfected, and there is one method applicable in every household, that can be entrusted to the most unintelligent girl in the kitchen. That is boiling, not merely hot water, but actual boiling for five or ten minutes.

This is a method of disinfection thoroughly practicable and feasible, and which can be applied to everything in the room upon which germs can be deposited, except leather or fur. As soon as the disease is diagnosed we should exclude all furniture from the room that is not absolutely necessary, and which cannot be disinfected with convenience, and then every article that we have any reason whatever to consider soiled by the hands or secretions of the patient should be put away safely where it cannot be touched until such time as it can be disinfected thoroughly with boiling water.

In the case of fabrics, they should be kept in a moist state until disinfected, in order to prevent any germs from crumbling off in the dry state and becoming diffused through the air. In all European cities of any size, and in a great many of the smaller towns, portable steam-disinfection apparatuses are now being constructed and managed by the local board of health or the police, to be used in every case of infectious disease, but so far as I know no such apparatus has been put to public use in this city. The ventilation of walls of the room is probably not nearly so important as has been generally supposed. If germs are so firmly adherent to walls or other surfaces so that ventilation will not carry them off, they are comparatively harmless. If they can be removed by a current of air through a window, it is much safer to remove them by other means—sponging with a disinfectant known to be reliable, or simply rubbing off the walls and all other surfaces with dry bread crumbs, which should be collected, of course, as soon as they fall and be burned. These suggestions are not based on preconceived ideas, but are the inevitable conclusions drawn from the most reliable experimental researches.

Dr. F. E. Waxham. Mr. President, it has been my fortune to have seen a great deal of diphtheria. It has been my fortune, I think, to have used or to have seen used, every specific remedy that has been proposed, but it has been my misfortune to have seen these remedies fail one after another, until I have lost all confidence in everything claiming to be specific in its nature. There are cases that are beyond the reach of medicine; there are cases where the system is overwhelmed from the very beginning of the disease, and where the administration of medicine seems to be about as efficient as the administration of water. And again, there are cases where the constitutional symptoms are mild, where the pharyngeal symptoms are slight and yet, where there is a tendency to rapid extension of the disease downward, and in these cases no remedy has been found that will invariably, or even in a considerable proportion of cases, prevent this extension. After a large experience I have come to depend upon the *frequent* use of tincture of iron as being perhaps the most efficient remedy we possess in the treatment of ordinary pharyngeal diphtheria. In the milder forms of pharyngeal diphtheria we may consider this treatment almost a specific, indeed, I believe it has better claims as a specific than any other remedy. The iron should be administered *frequently* in *full doses*, at least every half hour. In the mild cases and in the majority of severe cases, frequent and full doses of tincture of iron in simple syrup or glycerine will control them; however, in the malignant forms of the disease, the iron frequently fails; where there is a tendency to rapid extension of the membrane downward, iron has no effect whatever in preventing this extension.

In the severe forms of pharyngeal diphtheria, I prefer iron, quinine, digitalis and strychnia, with free stimulation and abundant nourishment. Where there is a tendency to invasion of the larynx, I believe that bichloride of mercury should be frequently used, from 1-16 to 1-48 of a grain every hour, together with a constant spray of lime water from a steam atomizer. These I believe are our most valuable agents. Where the larynx becomes invaded, and medical measures fail, then tracheotomy or intubation should be performed. I still adhere to intubation as being the most favorable operation. Out of 250 operations coming under my personal care, there have been 83 recoveries, or nearly 34 per cent, and this showing convinces me positively of the superiority of intubation over tracheotomy in dealing with these cases.

I feel that the importance of isolation should be emphasized in these cases of diphtheria, however mild they may be. I recall two instances coming under my observation recently, where diphtheria appeared in families. The disease was so very mild that it was not considered necessary to isolate any of the cases, and four or five children of the family came down one after the other with a mild form of diphtheria, until at last, in one case in each family, the disease was manifested in the larynx. In both these cases, operations had to be performed, and in one with a fatal termination, but in the other with a favorable termination. I feel that the importance of isolation cannot be too strongly emphasized.

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Western Medical Reporter.

A Monthly Epitome of Medical Progress.

JOHN E. HARPER, A. M., M. D., EDITOR.

G. FRANK LYDSTON, M. D., ASSOCIATE EDITOR.

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THE EDITOR would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information should be accompanied by the full name and address of the writer, although not necessarily to be published.

All communications should be addressed to

WESTERN MEDICAL REPORTER,
163 State Street, Chicago.

The Dog in the Manger.

Regarding the world's fair—the chief topic of the hour—St. Louis seems to occupy a very equivocal po sition. She has not the slightest hope of winning in the race for the exposition, and her efforts in this direction are pure bluff. She does hope, however, to be able to combine with the sleepy-eyed, emasculated dudes of the East in such a manner as to beat Chicago. "Down with Chicago!" is her war-cry. Fie, for shame, St. Louis! The idea of liberal Western citizens having anything in common with those flabbergasted Easterners—why, you sleepy old town, don't you realize that New York has not a ghost of a show if you behave properly and fight for the great West? After getting the Fair by your efforts, Gotham would despise the very factors of her success. Now the difference between Chicago and St. Louis is simply this: While St. Louis will move heaven and earth to beat Chicago, we are for Chicago, but if she cannot win, we say "*vive* St. Louis!" every time.

To show to what extent the green-eyed monster hath taken possession of St. Louisans, we will quote the *Medical Mirror:* In the January number of this excellent journal, the editor remarks that "The only proper place for the World's Fair outside of St. Louis, is Washington city." He further says that "An effort was made over at the Evansville meeting of the Mississippi Valley Medical Association, to present the claims of Chicago as the proper place for the World's Fair; these claims were presented with more rhyme than reason." Most fulsome flattery! We knew not that thou wert so hard hit, brother Isaac. The rhyme was necessary to convey some otherwise unpleasant truths to thy attention. It was not supposed that reasoning was necessary in view of the fact that everybody realized the propriety of holding the Fair in Chicago. The knock-out which Dr. Love asserts we received was not a "knock-out;" it was simply a successful effort on the part of a certain oily, wily medico-political schemer to evade the issue. Regard for the schemer and not for his nefarious plot to down Chicago, prevented blood-shed. We spared him for the sake of the babies—God bless 'em!

Come, now, Brother Love, you are the last man on earth that we should expect to play dog in the manger. How you can spring the "light of the Star of Bethlehem," "God bless medical editors," and jump on our poor neck, all in one issue, we cannot divine. Be more consistent, Mr. Editor, and do not let the generosity and kindness of your true nature be obscured by the rancor and gall of local St. Louis pride and ambition. L.

The Abortion "Expose."

Many of our friends have suggested that our editorial of last month's issue was a little severe in the absence of "positive proof," etc. Don't worry, dear friends, there was not a line in the article that cannot be substantiated. The only regret that we feel is the consciousness, that as far as the evidence goes, we can but be convinced of the moral obliquity of a prominent member of the Chicago Medical Profession. Whenever any bright member of the profession prostitutes his talents for the purpose of securing the downfall of his brethren and his own aggrandizement, we are sorry for him and for the profession which he so ignobly represents. Our sorrow in this instance is only equalled by our contempt for the individual whom we are convinced is the guilty party. Contempt, however, is a mild term; such a man is beneath contempt. He is a paradoxical combination of wolf, vulture and ass; the beastly triangle so imperfectly covered by the leonine envelope which has erstwhile dazzled the lesser lights; that the snarl of the coyote, the carrion-tainted breath of the buzzard and the bray of the ass, strike one simultaneously as an uncanny combination of foul stench and discord.

"He digged a pit, he digged it deep,
He digged it for his brother;
For his great sin he did fall in,
The pit he digged for t'other." L.

The Medical Mirror.

The first issue of the *Mirror* is at hand, and we hasten to greet it with all the warmth in our composition. We prophesied in a recent issue of the REPORTER that the new aspirant for medico-literary honors would be a credit to medical journalism. The *Mirror* exceeds even our rose-colored expectations. It is, without doubt, one of the best-constructed and brightest journals in America. The make-up of the journal is superb, and the contents of its initial number highly creditable. The editorials are of the highest degree of excellence from a scientific standpoint, and at the same time so bright and clever as to be free from the slightest suspicion of prosiness. Dr. Love evidently intends that the department of pediatrics shall be the chief feature of his journal; he presides over this department himself, and most creditably. We bespeak a cordial reception, success and a long life for the new journal. L.

St. "Loo."

You don't want us to have it, I know,
And hope we'll fall into the soup.
But we love you in spite of your blow,
Tho' to train with New York thou dost stoop.
We dote on your sighs and we smile at your growl,
Oh town by the "Daddy o' Waters,"
Come join with us then and we'll hear Chauncey howl
"These chaps from the West are ripsnorters." L.

A man named Martin Reistad, died recently in Joliet, Ill., who had suffered from a peculiar brain trouble. A post-mortem examination revealed the presence of a 32-caliber bullet imbedded in the brain. A year and a half before he had been found in the lumber district in a dazed condition, with his head cut and bleeding, and the impression had been that Reistad had been attacked in his store.

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Obituary.

Frederick Beasley Norcom, M. D.

It is with a sorrowful heart that we announce the death, on January 19th, 1890, of Dr. Frederick B. Norcom, one of the ablest practitioners in Chicago. We mourn him not only as a valuable and worthy member of the profession, but as the friend of the student and young practitioner. We feel that we have lost our best friend—one who guided our studies as preceptor, and counselled our course as friend and adviser.

Our earliest recollections of Dr. Norcom are tinged with the respect and admiration which the growing lad always entertains for the family doctor. Although now well acquainted with the profession, we have yet to meet the man who is nearer our ideal of the kind-hearted, skillful physician than was our dead friend. Night or day the dear old man was ready with hand and heart to succor the afflicted. This readiness and generosity was ever the stumbling block to his own financial success; never was he known to inquire as to the prospect of a fee; he saw the patient first, and let the fee take care of itself.

The death of Dr. Norcom was the direct result of his assiduity and self-sacrifice in caring for his patients. A few weeks ago he was attacked by the prevailing epidemic influenza. Although severely affected, he went about prematurely, and, being very busy, neglected himself in all possible ways. The result was a severe chill, followed by cerebral hyperæmia. Gastric derangement, perverted nutrition and heart-failure supervened, and the doctor died from a complaint which would have been a trivial matter had he taken proper care of himself and less care of his patients, who, we presume, are like patients in general, very unappreciative.

Dr. Norcom was born in Virginia, and was, at the time of his death, 59 years of age. He received both his classical and medical education at the University of Virginia—a school noted for the quality of its teaching. He afterward went to New York, became the private pupil of William H. Van Buren, and took an *ad eundem* degree at the New York University. At the completion of his course he entered Bellevue Hospital, and served his time in that institution. After leaving the hospital, he went to Paris and became a pupil of Ricord and Trousseau. While here, he thoroughly mastered the French language;—he was celebrated as a French scholar, as many of his friends are aware. At the outbreak of the rebellion, Dr. Norcom entered the Confederate service, and served through the war. During the greater part of the time he served with Forrest in the Army of the Southwest. He finally settled in Chicago, and rapidly assumed prominence in his profession.

He was a ready writer and a thoughtful student, and his counsel was eagerly sought by those who knew his worth. That the knowledge of his profound attainments was not national was due to his excessive modesty—his only fault, if fault he had. Soon after settling in Chicago he contracted purulent ophthalmia from a charity patient, and as a result his vision was ever after seriously impaired.

Apropos of Dr. Norcom's literary ability, it is said that he once wrote a criticism of a book by a certain medical light of this city, which, if it had been published, would have buried the celebrated author of the work some fathoms deep. Mutual friends implored Dr. Norcom to spare the literary lash. Their efforts to conciliate him were unfortunately successful.

Dr. Norcom made many fast friends while in New York, most of whom afterward became quite celebrated. Among these were Clark, Metcalf, Draper, Taylor, McCready, and Van Buren. The late Henry B. Sands was a warm friend and admirer of Norcom. Dr. Sands often expressed his regret that Dr. Norcom did not remain in New York and assume the position in the profession to which his talents entitled him.

Taken all in all, there are few men who so adorn American Medicine as did Frederick Norcom. He was a medical philosopher, a philanthropist, and a scholar combined; more than all, he was the highest type of a Southern gentleman.

He was the ideal physician, and like all of his kind thoughtful of the interests of others and neglectful of his own. There are many men in the profession who leave more of worldly possessions behind them than did this truly great man, but few indeed who leave so warm a place in the hearts of their friends.

If Frederick Norcom is judged according to his deserts his reward will be more precious than earthly gold. Cruel indeed would be a Deity who could view his faults with aught but a generous indulgence, or reward his virtues with less than the diadem with which God is said by the true believer to reward the just.

There is great fullness of our heart, but it will require a more eloquent pen than ours to do even scant justice to this wise and good physician and best of friends. L.

Dr. L. L. Romans

Died at his home in Denver, Colo., on January 14, of pneumonia, after three weeks illness. Dr. R. graduated from the College of Physicians and Surgeons, Chicago, in '84, and practiced for a time in Mexico, Mo., then in Kansas City, where he succeeded in establishing a lucrative business, but failing health compelled him to secure a more favorable climate. He moved to Denver a little less than two years ago, and was enjoying a very prosperous business when death overtook him. His many friends throughout the West will be greatly pained to learn of his early and untimely death.

Review.

"Handbook of Dermatology." By Ohmann Dumesnil, M. D., St. Louis Medical and Surgical Journal Publishing Co.

The little handbook of Dr. Dumesnil that is now before us, is by far the best that we have seen of its class. The subject of dermatology is the *bete noir* of the student, who not only fails to glean much practical teaching from his college course, but has no time to study the verbose and weighty tomes of the aspiring dermatological authorities with their bewilderment of terms and pedantic disertations on more or less imaginary varieties of skin disease. Dr. Dumesnil has succeeded in a rare degree in imparting thoroughly practical and comprehensive knowledge within a small compass. If we have any criticism to offer it is that the work is a trifle too condensed; but this is a fault which will doubtless be corrected in future editions. Every physician as well as student, should procure and thoroughly study this little volume. L.

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Western Medical Reporter.
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ORIGINAL ARTICLES.

The Local Treatment of Syphilitic Phenomena.*

BY G. FRANK LYDSTON, M. D., CHICAGO.

The knowledge of syphilis possessed by the average practitioner appears to be embraced in the aphorism, 'Pox is syphilis, syphilis is pox, and mercury and potash are good for it." Comparatively few are disposed to take pains in allaying or removing as far as possible the immediate and unsightly results of the disease. In this respect it is perhaps unfortunate that mercury and iodine are such faithful servants, even to the routinist. If these remedies were less potent even when applied in a haphazard fashion, the physician would *nolens volens* take more pains in the study and management of his cases. Nothing is so markedly neglected as the local management of the lesions of the disease; this is the more reprehensible because of the readiness with which they may often be controlled and the patient rendered less unsightly and more comfortable. It may not therefore be a gratuitous task to present the therapeutical measures which have done me ten years' faithful service in a by no means inconsiderable number of cases of syphilis. I desire to state, however, in this connection, that obstinate lesions are exceptional in my own practice in cases coming under treatment at the time of development of the primary lesion, unless the patient wilfully neglects himself. So mild is syphilis under modern rational treatment that one is compelled to patronize a dispensary clinic, else he is not apt to see much of a variety of lesions unless he is a veritable tyro in the management of the disease.

As I realize the value of space, and moreover as I intend to present a complete dissertation on the subject in the near future, I will be brief and to the point.

LOCAL TREATMENT OF THE CHANCRE.

First principle, avoid caustics.

Second principle, avoid grease.

Third principle, keep the part dry as a rule, and perfectly clean.

The only exceptions to the rule regarding caustics are mixed sores, with a minimum of induration, and exulcerated sores, which become sluggish and refuse to heal after induration has nearly or quite disappeared. In the first instance pure carbolic followed by fuming nitric acid is admissable, but the galvanocautery, preceded by cocaine, is better.

The exception to the second principle is the application of iodoform ointment to sluggish or painful sores. The following formulæ will be found to be excellent, the odor of the iodoform being completely disguised. I attribute this property to the menthol, which, as far as I am aware, has not been elsewhere recommended for this purpose. Oil of mirbane may be used in lieu of menthol, but is more irritating and less effective. Where there is considerable pain cocaine and extract of belladonna may be added.

℞ Mentholis ..... gr. v.
Iodoformi ..... ʒiv.
Cetacei alb. ..... ʒii.
Cerati, q. s. ad ..... ʒi.
M. Sig.—apply on lint.

℞ Ol. mirbane ..... M. iv.
Bals. peru. ..... ʒii.
Iodoformi ..... ʒii.
Vaselinæ, q. s. ad ..... ʒi.—M.

The old-time black and yellow wash are not objectionable for cleansing purposes, provided the part be well dried thereafter and packed well with some absorbent powder. I prefer, however, a solution of the bichloride 1:500. A plan recommended for this application is to wash the part with a weak solution of common salt. Calomel is now sprinkled upon the part, and a small amount of nascent and active bichloride is thus formed. I have used this plan for condylomata quite successfully. The best absorbent is the powdered oleate of zinc—not Merck's, which is abomnable, but Parke, Davis & Co.'s, which is really excellent—a useful combination is the following:

℞ Bismuthi subnit ..... ʒii.
Ac. salicyl. ..... gr. v.
Zinci oleat ..... q. s. ad. ʒi.—M.

Simple calomel is useful, but not so good as the above. Turpeth mineral is a very desirable method of applying a mercurial in a dry form. Oxide of zinc and lycopodium are also very good, used in equal parts. The part may be kept dry by absorbent cotton. Cumbersome dressings must be avoided, especially such as require for their retention constriction of the penis.

Pronounced indurations often persist for months without ulceration, or after it has healed. Bathing in hot water, with frictions of hydrarg. oleat., five per cent, will dissipate them after a time. The easiest and best method is excision. I would recommend excision of all clearly-cut chancres upon the prepuce or integument. *Care should be taken, however, never to excise them until they have become stationary, else recurrence is almost certain.*

The roseola seldom requires attention; should, however, pigmentation be marked and lasting, hot baths, with frictions of twenty per cent oleate, will be serviceable. In ordering the oleate always specify Squibb's. There may be others as good, but not to my knowledge, and I know there are none better.

Papules, tubercles, squamæ and other dry lesions can be controlled and rapidly resolved by applications of the following formulæ. Care should be taken in the selection of the proper strength—blistering may result, and, although beneficial sometimes, causes the patient to lose confidence; there is great variation in integumentary susceptibility. The collodion preparation is the most likely to blister.

℞ Hydrarg. bichlor. ..... grs. v.–xx.
Collodionis. ..... ʒi.
M. Sig.—Apply with hair pencil.

℞ Hydrarg. bichlor. ..... grs. v.
Tr. benzion co. ..... ʒi.
M.—Sig.—Apply.

Tincture of tolu is also an excellent vehicle.

The results obtained by these preparations are often remarkable. They are of especial value in removing facial blemishes—they hasten removal of pigmentation very markedly. Their efficacy is easily tested by

*Cincinnati *Lancet-Clinic.*

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contrasting the course of facial lesions treated by them with that of other integumentary lesions upon the same subject.

Crusts and squamæ, if thick, are benfited by applications of ung. hydrarg. nitrat. The ammoniated mercury ointment is useful in some instances, but is not often sufficiently strong. Where the lesion is very obstinate, an occasional application of the pure acid hydrarg. nitrat. will hurry it up.

Ulcers require some care. Ointments of iodoform, hydrarg. oleat., ung. hydrarg., the citrine and white precipitate ointment, are all of service in different cases; one failing, another should be used. Occasional stimulation with argent. nitrat., or even the acid nitrate of mercury, may be required. Should ulcerations be attacked by phagedæna, Ricord's paste or the actual cautery may be used. My own preference is for the pure bromine. Applications of the potassio-tartrate of iron are useful in some cases—twenty grains to the ounce.

Nodes and diffuse osteo-periosteal swellings may be benefited by frictions of ung. hydrarg., hydrarg. oleat., and ung. iodinii co. I have obtained good results from hypodermics of a solution of the bichloride immediately contiguous to the swelling. A blister, followed by ung. hydrarg., is often efficacious in disposing of obstinate nodes. The tincture of iodine is also useful.

The obstinate headaches of both late and early syphilis, whether associated with cranial bone lesions or not, are benifited by frictions of the scalp with the hydrarg. oleat.—ten per cent. In obstinate cases a blister to the nuchia, followed by mercurial plaster, is quite effective. There are occasional cases of cephalagia associated with the cachexia syphilitica where the galvanic current is of great service.

Syphilitic iritis is greatly benefited by frictions of the brow and temples with the oleat. Care is necessary lest the ointment get into the eyes, as it is extremely irritating. Occasional bathing of the eye in a solution of the bichloride, 1:20,000, is of service. In case it becomes necessary to blister the temples, mercurial ointment should be applied to the raw surface.

Mucous patches and fissures of the mouth, if very painful, should not be cauterized until their irritability has been in a measure allayed; they then require cauterization. The best application is the acid hydrarg. nitrat.; in some cases, however, the nitrate of silver is better. Obstinate tubercular lesions and post-ulcerative thickenings should be destroyed by the galvano-cautery, as transformation into cancer is possible. (1)

Ichthyosis of the tongue requires complete destruction of the epithelium of the organ. This condition occasionally follows syphilis, and is due to (1) the disease, (2) over-treatment with mercury and iodine, and (3) alcohol and tobacco.

Tertiary and destructive ulcerations are made cleanly and induced to heal by thorough applications of tr. benzoin co., with or without the bichloride—grs. ii. to the ℥i.

In irritable oral, lingual and pharyngeal lesions, the following is the best thing I know of:

℞ Ac. carbol.....gr. x.
Iodinii resub.....gr. v.
Menthol.....gr. x.
Ol. eucalypti..... ℥ii.
Glycerite tann..... ℥ii.
Boro-glyceride, q. s. ad..... ℥i.
M. Sig.—Apply with a brush.

If the practitioner doubts the healing properties of this formula, let him increase the strength of the iodine and carbolic acid a little and try the efficacy of the mixture in cervical endometritis; it is my routine application, and is very successful.

Condylomata and mucous tubercles disappear like dew before the sun under the collodion or benzoin and bichloride mixture. Remember that the parts must be kept clean and dry. Condylomata and mucous tubercles mean local irritation and filth, both of which are in great measure avoidable. Calomel and oleate of zinc are the best dusting powders for these lesions.

Concomitant herpes progenitalis is an occasional feature of syphilis; indeed, I regard syphilis as a frequent cause of herpes.* The oleate of zinc is as near a specific for this condition as may be.

Alopecia is greatly benefited by the following:

℞ Hydrarg. bichlor.....grs. xvi.
Tr. canthar..... ℥iv.
Tr. capsici..... ℥ii.
Glycerinæ..... ℥ii.
Ol. ricini..... ℥i.
Sp. colognensis, q.s.ad..... ℥viii.
M.—Ft. lotion. Sig.—Rub in scalp night and morning.

℞ Hydrarg. biniodidi.....grs. xx.
Ol. verbenæ..... m x.
Vasalinæ..... ℥ii.
M. Sig.—Rub well into the scalp at bed time.

I trust that this hasty and by no means comprehensive survey of the local management of syphilis may contain items of value to some who have neither time nor material for experimentation to determine independently the best methods for treatment. The items are, it is hoped, suggestive, to say the least, and therefore capable of being built upon clinically.

Certain Forms of Deviation of the Nasal Septum and Their Treatment.

By M. R. Brown, M. D., Chicago.

The term Deviation of the Nasal Septum, as understood in its broadest sense, means any departure of that partition from the normal.

In repeating that hackneyed expression "it is rare to find a straight septum," I would go even a step further and doubt if there can be found in the civilized adult man a septum nasi which is perfectly straight and free from all growths and thickenings throughout its entire extent, and which divides the nasal cavity into two equal passages. Deviation is the rule, and the theoretically perfect and normal condition, if found at all, is very rare indeed. The percentage of the deviations given, as noted from examinations made of dried specimens by different observers, varies from 19.2 per cent to 79.5 per cent, with an average of 60 per cent. These differences are due, according to Delavan "to the variation in the standards adopted by the respective observers." Delavan himself included in his observations, which give the

[1] Vide Lang, Langenbeck, Weir, and a case of my own reported to the Mississippi Valley Medical Association, September 18, 1889.—*N. Y. Med. Rec.*

*Vide, my paper read before North Texas Med. Assoc. (*Phila. Med. News*, Feb. 7, 1890,) on Herpes Progenitalis.

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smallest percentage of those recorded, only those cases where the deflection amounted to an absolute obstructive deformity. These investigations are of even less value, when we consider that the skulls examined were dry, and hence the cartilaginous septa, where deviations generally occur were absent, and the bony portions also were possibly warped. Observations made on the living subject give results of far greater importance and reliability. We quote Heyman as authority for the statement that 99 per cent of all cases examined will show deviation of the septum. However the subject may be viewed, it can but be acknowledged that deviation of the septum is one of the most frequent abnormal intra-nasal conditions met with.

The forms of deviation of the nasal septum to which your attention is asked are those known as deflections, exostoses and ecchondroses. Deflection is a bending of the septum from the mesial plane of the cranium so that the lumen of one cavity is increased at the expense of the other; the septum assuming either an oval or a wedge-shape in the passage encroached upon and there being a corresponding concavity in the other.

Deflections are termed oval and angular, according to their shape, and all other forms are but varieties of these two. Oval deflections are generally confined to the cartilaginous septum. They are smooth on the surface, oval in outline, and the mucous membrane is thin and somewhat atrophied.

Angular deflections may involve the entire septum. They are wedge-shaped, hypertrophied at the apex, and their longitudinal axis is horizontal, vertical or oblique.

So-called ecchondroses and exostoses are ridges of cartilaginous or bony structure seen extending along a suture and projecting for a variable distance into a nasal cavity, they are, in fact hyperostoses of a sutural line. Like other oseous growths, exostoses, generally cartilaginous in their early formation, are divided into cancellous and ivory. Cartilaginous and bony tumors proper, are not so often seen on the septum.

The causes of these conditions are the following:

1. Injury to the nose at the time of birth, or later in life, though I question whether this plays as important a part in producing deflections as is occasionally claimed for it.

2. Frequent irritation of the septum by a turgescent turbinated body. This produces at the point of contact an hypertrophy of the mucous membrane which eventually in some cases, the irritation having been kept up, is found to cover a cartilaginous exostoses.

3. A high arched palate or low nasal vault by diminishing the verticle distance.

4. Disturbance of atmospheric pressure due to post-nasal growths and other interference with nasal respiration.

5. The contraction caused by the healing of the Ulcers of Lupus and Syphilis.

6. Excess of development of a septum during its formation. The fibro-cartilaginous tissue of which the septum is composed in early life, does not ossify until late. When the change takes place it does so with such activity that excessive development is often the result. If this excess of growth has occurred at the center, there is a bulging at the septum to one or the other side, but if the inordinate growth has taken place at the circumference of some of the plates, i. e. at an articulation an outgrowth, hyperotoses, or the so-called ecchondroses is the consequence.

It may be of interest to mention that I have recently seen a child, ten weeks old, with occlusion of both anterior nares due to congenital excessive development of the septum. In this case the excessive development took the form of cone-shaped ecchondroses. They were located, one in each nasal cavity over the suture formed by the anterior edge of the vomer and the cartilaginous plate of the septum and completely obstruted the vestibule.

When the deviation of a nasal septum is sufficient to create abnormal symptoms, these partake of the nature of obstruction, oval deflections and angular forms when the longitudinal axis is vertical, as a rule causing the greatest disturbance to nasal respiration. In addition to the obstruction directly due to the deviation, there is an alternating stenosis of the nasal passages, caused by swelling of the turbinate bodies of first one side and then the other, the result of weakness of the muscular coat of the blood vessels from a chronic congestion due to diminished atmospheric pressure and the prodding of the deviation into the turbinated bodies. Defective resonance of the voice is also a symptom owing its existence to the cutting off of the sound waves from a portion of the nasal cavity. Epistaxis may be frequent and severe, and as a small outgrowth is more apt than a large one to produce hemorrhage, it may be the only symptom complained of. Pain referred to the bridge of the nose is often quite annoying. Among the host of reflex symptoms, are asthma, cough, sneezing, neuralgia, acne facialis, and possibly most marked of all, headache. To these may be added disturbance of cerebral function, as aprosexia or the inability to fix the attention on any definite more or less abstract subject.

With the anterior nasal fossæ well dilated and the cavities properly illuminated, there will be no difficulty in recognizing the disorder, which, indeed, can often be surmised by the crooked nose and by the nasal character of the voice. Any uncertainty which may arise regarding the nature of the obstruction seen, can be decided by means of the nasal probe. A convex or bulging appearance of the septum in one nasal passage, with a corresponding cavity on the other side, can only be a deflection. No concavity occurs on the side opposite to an exostoses or an ecchondroses.

Treatment is seldom resorted to for æsthetic purposes, though it might more often be employed with perfect propriety in order to correct the deformity and to give a more sightly appearance to an objectionable nose. But we are frequently called upon to remove obstructions within the nasal cavity in order to relieve the disagreeable symptoms and to enable the functions of the organ to be properly performed.

Promiscuous operating on all deviations that come under observation is to be discouraged, and surgical interference should be employed only when they cause obstruction to the free passage of air through the nose, disfigurement, catarrh or some reflex symptom.

Having determined that the deviation should be corrected, it is useless to attempt other than surgical treatment. There being an excess of tissue, it must be removed in order to restore the parts involved to their normal condition. Previous to all intra-nasal operations, it is advisable to reduce the hyperæmia

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and irritability of the lining mucous membrane by suitable medication. This having been accomplished, the operation should be begun by anæsthetizing the parts thoroughly so that all pain may be avoided.

In the oval form of deflection where the convexity is great, the most prominent part may be grooved out with a tubular knife or with an ecchondrotome, care being taken not to perforate the mucous membrane of the opposite side. Or, according to the plan of Dr. Ingalls, a number of submucous channels may be drilled from before backward in the cartilage or bone. Either method weakens the septum so that it can be pressed flat and held so by tubular splints in the nostrils until the healing process is complete.

In angular deflections the septum is greatly thickened, so that we are able to treat them as we do exostoses and ecchondroses. In these forms of deviation, a snare, preferably the cautery snare, can sometimes be used to remove the projecting mass. I find a metal ring, properly insulated and attached to a cross-bar, to which the wire is made fast, more convenient than the customary attachments to cautery handles. I present herewith such a ring devised by myself and used exclusively in my daily work. For removing the ivory form of exostosis, the Bosworth or Bucklin saw is to be preferred. Dr. Potter has recently invented a saw to be used with a dental engine; the objections to it, which rest mainly in the driving wheel, and which are so great as to render the instrument useless for practical work, have been entirely overcome in the one I pass for your inspection. The action of this saw is steady; it is free from jerking when driven rapidly or slowly and whatever the degree of resistance it encounters. The shaft can be made fast by a binding-screw and the saw used with the hand as is ordinarily done. Any form of blade can be easily fitted to its jaws.

For cartilaginous or bony cancellous structures, especially when they are situated on the anterior half of the septum, I occasionally employ a tubular knife, attached to the dental hand-piece and driven by an electric motor; the power is controlled by a magnetic brake attached to the pulley at the back of the shaft so that the knife can be stopped instantly. The tubular knife cuts through the growth with great rapidity and causes very little, if any, annoyance to the patient. An ordinary bistoury can occasionally be used to remove the softer forms of outgrowth. In all these cases, however, excepting ivory exostoses, the excess of tissue can be removed with great facility by an instrument which I here present, and which was described in a recent number of the *New York Medical Record* as an ecchondrotome. The instrument consists essentially of a handle and two blades, one cutting from before backward and the other in the opposite direction. On the back of the handle there is a cross-bar with a slot which can be pushed up and made fast by a small binding-screw. When raised, this bar forms a purchase for the milled nut, which can be made to revolve on the shaft of one of the blades, thus bringing the cutting edges of both blades as near together as may be desired.

The pins holding the blades parallel also prevent dulling of the edges by jamming. A screw on the under surface of the forward part of the handle, when loosened allows the blades to be revolved on their long axis, thus permitting us to operate in either nasal passage on the septum or the tubinate bodies.

The method of operating on the septum with the ecchondrotome is as follows: The closed blades are introduced into the obstructed nasal cavity with the convex surfaces turned toward the septum. The blades are then opened and made to embrace the outgrowth or as much of it as possible. Holding the handle in the right hand, the thumb is placed on the back of the near blade and the cutting edge of both are forced toward each other. Should we find difficulty in dividing the tissues embraced within the blades or wish to finish the operation slowly, the cross-bar may be pushed up and the milled nut being secured, be revolved by the finger and thumb of the disengaged hand, thus approximating the blades as slowly as may be desired. The bar can be lowered at any stage of the operation in order to complete it more rapidly, as before described. With a lowered bar a hammer can be utilized instead of the thumb, thus allowing the blade to be used like a chisel. In a similar manner the turbinate bodies may be removed with the ecchondrotome.

It will be noticed that the ecchondrotome as well as the tubular knife leaves a concave wound, differing in this respect from other instruments employed in intra-nasal operations. I claim this to be an advantage because a minimum amount of mucous membrane having been sacrificed healing is not prolonged and the new tissue fills up the excavation without encroaching on the nasal cavity. On the contrary, when growths are removed only to the level of the septum, the mucous membrane when grown over the wound encroaches on the passage to the extent of its own thickness. The result is a slight elevation on the septum, and oftentimes a persistence of the symptoms for the relief of which the operation was undertaken. The charge that all but perfectly straight, smooth cut surfaces will retain the nasal secretion and thereby retard healing is not borne out by experience, and if the ordinary rules holding after all other surgical operations be observed as far as practicable, in those performed in the nose, there will be no delay in the repair of the tissue whatever be the shape of the cut made. I may however add that if desired the blades of the ecchondrotome can be made flat instead of curved, thus satisfying the requirements of those who insist on such "straight, smooth cuts."

Hæmorrhage is never severe, but occasionally it is so free as to offer an obstacle to the rapid completion of the operation; it generally ceases in a few minutes by the formation of a clot.

The patient is then instructed not to clear the nose for several hours. Since I observed occurring in the practice of a fellow practitioner a case of traumatic inflamation ending in suppuration of the middle ear which was produced by the removal of an ecchondrosis with the saw, I have had my patients present themselves several times during the week or ten days subsequent to the operation so that I might cleanse the wound and give it such other attention as it seemed to require.

The mucous membrane will be entirely reproduced within a few weeks after the operation and will present a perfectly smooth surface.

Owing to the manifold peculiarities of different nasal passages and the irregular character and location of the growths met with I do not think that we have any one instrument applicable alike to all cases. It should

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be our aim to utilize that instrument which will give the least disturbance to the patient consistent with the best attainable results. Hence, after an experience with the ecchondrotome extending over more than a year and including many operations, I feel justified in offering it as a valuable addition to those we already possess for intra-nasal surgery.

The Management of Blepharitis.

By H. Gradle, M. D., Chicago.

According to some of the popular text-books on diseases of the eye, the inflammation of the margin of the lids would seem to be a very easily remedied affection. Any one, however, who has had extensive personal experience, will readily grant that such is not the case and that the disease is very often rebellious, at least under the routine treatment most commonally advised. As this routine treatment viz: the use of some mercurial preparation in the form of a salve has proven neither the quickest nor the most reliable in my hands, I wish to offer some therapeutic suggestions based on my own experience.

We can distinguish clinically two forms of Blepharitis, viz: the ulcerative and the non-ulcerative or squamous inflammation of the palpebral margin. The former may be closely compared to eczema as seen on the scalp, while the scaly form of Blepharitis resembles that scaling affection of the scalp, known as dandruff or seborrhea, also described by Michelson in Ziemsen's Cyclopedia as Alopecia Pityrodes. It is difficult to say from clinical evidence alone whether these two forms represent different stages of the same disease or are separate and distinct processes. The latter seems to me to be the more probable view. One of the reasons pointing toward this view is the fact, that the squamous form invariably affects both eyes, while ulcerative blepharitis may be limited to one side.

It is true on the other hand that something like transitional forms are occasionally met with. Sometimes small ulcers occur in the squamous form. But occasionally, too, one may find an abrasion of the scalp under a thick scale of dandruff. After the ulcers of the ulcerative form have been healed, the edge of the lid may remain inflammed for awhile, but in that case it scarcely presents the scaliness of the typical squamous blepheritis.

*We are no better informed as to the causes of blepharitis than as to the etiology of the corresponding diseases of the skin in other parts. In the fresh pustules of the ulcerative form, Widmark has found the pus staphylococci. These undoubtedly cause the suppuration, but whether this is a complication or the essence of the disease is as yet undecided.

We do know however of certain predisposing influences which must be borne in mind in the successful treatment of this disease. Two of these conditions are commonly known to occulists, while the third has as yet received less general attention. First of these is insufficiency of the lachrymal passages. Stricture of the duct or mere inflammatory tightness and especially inflammation of the tear sac may be the condition which favors the occurrence of the disease as well as the obstacle to the cure of blepharitis, particularly the ulcerative form. It has further been pointed out by various occulists that eye strain, due to hypermetropia or astigmatism often favors the persistence of blepharitis and may require correction by glasses before the inflammation of the lid can be removed by local treatment. A third condition which my experience has often taught me to recognize as a factor in the production of blepharitis is nasal disease. The mere coexistence of nasal anomalies and blepharitis would not prove the causal relation of the former in view of the great frequency of morbid processes in the nose. I have however seen a number of times that nasal treatment alone improved and gradually cured the blepharitis which had by itself annoyed the patient so little that he had not sought my advice for the affection of the lids but only for the nasal difficulty. On the other hand I have occasionally met with cases of blepharitis, more especially the ulcerative form, in which I could not succeed in curing the patient permanently until I had turned my attention to the nasal cavity. I do maintain, however, that even in those cases where the nasal disease is presumably the influence which favors the occurrence of blepharitis, and tends to perpetuate it, blepharitis can often, though not always, be cured by local means without removing the nasal anomaly. I hence consider nasal anomalies not the exciting cause of blepharitis, but merely a predisposing condition. In view of the very many coincidences of blepharitis and nasal disease which I have seen, I believe this predisposing influence to be a frequent one. Predisposing nasal disease may be any form of nasal disturbance or anomaly, as well as blockage of the post-nasal space by adenoid vegetations. The mode in which nasal anomalies influence the lids is probably by creating disturbances in the venous circulation. In some instances besides, nasal disease leads to lachrymation and insufficiency of the lachrymal passages.

*Fuchs has called attention to another "cause" or rather predisposing condition in occasional instances of blepharitis, viz., insufficient length of the skin of the upper lid, causing a slight gaping of the lid aperture during sleep.

In the treatment of the ulcerative form of blepharitis I can only endorse the majority of authors as to the use of the nitrate of silver stick. Its thorough application to the ulcers after removing the adherent crusts will stop the process sometimes at once, sometimes after a few repetitions. The non-ulcerative inflammation which may still persist can then be made to yield by the use of an oxide of zinc salve. This has seemed to me to be more efficacious upon the addition to it of about five per cent of ichthyol. In other instances I have succeeded well with pyrogalic acid (one part to eight of vaseline). I have seen either of these remedies succeed where mercurial ointments failed. It is best to remove with forceps all loose cilia in addition to this treatment.

The squamous form of blepharitis does not always yield to mercurial ointments, be it the white or the the yellow precipitate, or the nitrate of mercury. It is necessary to remove in any case the scales which sometimes form very thickly. I have found that a

*Fukula (Ueber die Blepharitis papillaris, &c., Kliu Zeit. und Streitfragen Bd. II Heft 8) claims that anatomically Bl. ulcerosa is a disease of the papillary layer of the skin while the squamous form of disease is located in the glands.

*(Die Entzuendungen des Lidrands. Wiener klin. Wochenschrift 1888. No. 38 and 39.)

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solution of chloral (about five per cent) carefully applied with the finger to the edge of the lid facilitates the removal of the scales and can by itself cure the disease. A quicker treatment is the addition of a pyrogalic acid ointment. It is well to tell the patient that this may stain the skin temporarily.

Much quicker and more satisfactory results however have I been able to obtain by a treatment suggested to me by my dermatological friend, Dr. Zeisler, on the ground of the analogy of squamous blepharitis to seborrhœa of the scalp. It is the use of sulphur ointment which I have never seen mentioned in ophthalmic literature. I have usually employed a three per cent mixture of sulphur with vaseline, with the addition of the same amount (three per cent) of resorcin. The latter seems to facilitate the removal of the scales, but I am not sure that its addition is essential. The application of this salve to the edge of the lid at night, shows an influence which may be almost termed specific, only however in the squamous —not in the ulcerative form of the disease. Lids which have been red and unsightly for months and years often assume a normal appearance inside of one week. While it may be well to use the salve for some four to six weeks to guard against relapses, I have found that if its full benefit is not obtained in two to three weeks, it is due to some of the predisposing influences, which then required attention. Of course we should not attempt to cure a blepharitis without previously restoring the permeability of diseased lachrymal passages, except on the patient's distinct refusal to submit to any operation. For where lachrymation persists it is scarcely possible to remove the blepharitis. In the case of hypermetropia or astigmatism the necessity for correction by glasses exists only if the eye strain is either noticeable to the patient in any way, or if a few weeks' local treatment has not succeeded in curing the blepharitis. Finally as to nasal influence our therapeutic measures must also be guided by the circumstances. If the patient does not wish any nasal treatment we may as well attempt to cure the blepharitis by local means, which will generally be successful. If this cannot be accomplished it is still time to treat whatever disease of the nasal cavity may be found.

Bacteriology in its Relation to Medicine.

An address to the Chicago Medical Society,

By FRANK S. BILLINGS, M. D., late Director of the Patho-Biological Laboratory of the State University of Nebraska.

Mr. President and Gentlemen: I thank you most sincerely for the honor you have done me in asking me to appear before you. The subject of bacteriology in its relation to medicine has, to my mind, been in many ways magnified to an undue degree, while on the other side it is of the utmost importance; that is especially from the etiological and prophylactic points of view; from the eminently therapeutical side bacteriological investigations have as yet contributed very little, unless it be in the field of practical surgery. Not belonging to the extreme bacteriological school, but to the much more conservative one of pathology, I shall endeavor to consider the question almost entirely from that side. Bacteriology may be looked upon in three different ways.

1st. As mycology, per se, that is, the study of the morphology, biology and classification of bacteria in a strictly scientific or botanical sense.

2d. In its relation to disease, that is, so far as germs cause specific disease, and the direct lesions due to specific germs.

3d. With relation to hygiene or prophylaxis. As regards a scientific classification of bacteria we have waited for years for the same, ever since the first discovery of Bacillus anthracis in 1855, without any satisfactory result.

Pathological investigators have, however, become more or less united in a sort of general classification which seems to answer all practical purposes. We have the cocci or round objects; that is, micro-organisms round in form and alike in all their diameters. Second, bacteria or ovoid objects, in which the longitudinal diameter is not over double that of the transverse; third, the bacilli or rods, and lastly the cork-screw like micro-organisms, or spirrilli. There is one point upon which I am more or less a direct opponent of the so-called Koch-school, and that is in regard to what I call the useless study of what may be considered adventitious, or accidental, germs in relation to disease, unless they are manifestly the direct cause of specific though secondary lesions. I do not think Robert Koch is so much to blame as those who have gone out from him for a certain mania to discover germs and give them undue importance and thereby gain the name of a discoverer, but this method of investigation has not been without its evil influence and has tended to bring exact research into disrepute in the minds of many, especially those of practitioners of the old school.

As an example of this misleading kind of investigation, I may refer to that set by one of the Government investigators upon yellow fever, who said if he had been well acquainted with all the germs which infested the intestinal canal of healthy individuals, he would have been better fitted to have made original researches into the cause of that disease. If this investigator had had such knowledge it would not have benefitted him an iota in searching for the germ of that southern pest. Had he decided by exact macroscopical examinations what were the specific lesions of the yellow fever, and only such, he might have been far more successful than he has been in his investigations. Lacerda first discovered the specific germ of this disease and his discovery was afterward confirmed by Babes, and has since been reindorsed by Dr. James E. Reeves, Chattanooga, Tenn., in material furnished him by Dr. Sternberg and my own investigations upon material from the same source, as well as in alcoholic material from six different individuals sent to me by Dr. Burgess, of Havana, Cuba. It is singular, that although Dr. Sternberg sent the material to Dr. Reeves, I have examined Reeves' specimens and find his assertions correct: that Sternberg has never mentioned finding that germ or any other in the same material of which he must also have retained a supply. This organism must certainly be the germ of the yellow fever because the majority of observers have found it, and Freire says it is the same thing which he has found, and certainly the municipal government of Rio Janeiro would not appropriate $600 a month for the support of stations for inoculation, unless there was some preventive value in Freire's methods. But there is one method which prevails in this country among investigators employed by the Government with most wonderful success—to themselves. They retain their positions,

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though they do nothing, and succeed in "stamping out" every other investigator who endeavors to do anything. To return to the subject of hunting for specific germs, which is the only part of bacteriology in which the pathologist has any especial interest. There is an old and well-worn saying of the celebrated David Crockett: "be sure you're right, then go ahead," and so I say, first determine by clinical examination and macroscopical observation what is the pathognomonic lesion due to a specific germ of a specific disease, seek it therein, and there only, and you may be certain that your search will be eventually rewarded by success.

This is the method I have invariably followed and the results, as some of you well know, have been such as to warrant my assertion. Take any of the diseases which it has been my fortune to investigate, the noted swine-plague, for instance. That disease is a strict blood poison, a septicæmia. It is as easy to find the germ of swine-plague as it is to pick up this pen. The germ does its work in the blood; the blood and the blood producing organs are especially infested, and it is there that it can almost invariably be found in an uncontaminated condition. In all of these purely blood diseases it is very easy to obtain a pure culture of the specific germ. All you have to do is to open an animal before cadaveric changes have taken place; sear the outside surface of the heart with the heated blade of a common knife, cut into one of the ventricles with another hot knife and introduce your previously sterilized wire into such ventricle and inoculate your cultivation tubes, and success will almost invariably reward your endeavors. It is far different with what we know as contagious diseases. There the germs have become acclimated, if I may use the term, to certain exact conditions of temperature and nutrition, which are of such a delicate character, that it is often very difficult to reproduce them artificially and hence our endeavors to obtain cultures from this class of diseases often prove futile.

There is a very practical classification of pathogenic germs which has been given to the world by Hueppe, who speaks of them as obligatory and faculative parasitic micro-organisms. By obligatory he means that certain specific germs only find their place of primary development within the animal organism and never externally and by faculative, that, while the place of primary origin is in outside conditions, still that the germs may take up their abode within the bodies of susceptible species of animal life and then become pathogenic. Then there is still another class to which I have given the name of "accidentally pathogenic," that is, germs which are more or less invariably present in the mouth, or other organs of any form of animal life, and yet when we isolate them and obtain them in strictly pure cultures may be disease producing in some of the smaller animals which are generally used in experimentation, but do not, under natural conditions, infest such animals. Miller, of Berlin, a dentist, has described a very large number of such micro-organisms as inhabitants of the mouths of human beings and yet it is very doubtful if any one of them has any specific value in causing disease in man.

I have myself isolated and cultivated fifteen varieties of such germs from the intestinal canal of swine, and yet not one of them had any relation to the swine plague. There is a great deal too much importance attached to such micro-organism. A germ which is absolutely without any pathogenic effect in small animals, may still mechanically cause lesions in organs previously diseased through the action of specific germs. The value of such germs has been magnified altogether beyond their real pathogenic merits, and hence caused bewilderment in the minds of the ordinary practitioner. An example of this kind is the cocus found in the mouth of human beings discovered by Sternberg. The value of bacteriology in diagnosis is another thing which has been entirely overestimated. To my mind, any person assuming himself to be a patho-bacteriologist, who had learned how a certain germ manifested itself by its specific lesions and clinical phenomena, and who could not diagnose such a disease without resort to a special bacteriological examination, would be eminently incompetent. It is the same thing in pathology. A sort of hidden mystery has been connected with the value of the microscope in diagnosis. Microscopically we study the minute changes which have taken place upon the individual cells, but we cannot consider ourselves competent, pathologically, unless we can easily read the microscopical changes by the macroscopical picture presented to our eyes. Certainly no competent clinician needs to absolutely see bacillus tuberculosis to make a reliable diagnosis of phthisis pulmonum. Bacteriological examinations may be a valuable aid in doubtful cases of clinical diagnosis, but they are not an absolute necessity. Were it not that bacillus tuberculosis has its specific chemical reaction, or perhaps better resistance to certain kinds of treatment, of what aid would it be in diagnosis? Take that class of germs to which I have given the name of "ovoid belted bacteria," that is micro-organism with an uncolorable belt across them with colored pole ends, we have a large number of them which cannot be distinguished securely from one another, such as that of rabbit septicæmia, swine-plague, the corn-stalk disease, yellow fever, hen cholera, a disease of canary birds and ferrets, of what value would a microscopic examination be of blood without knowing from what animal the blood came and something of the clinical history?

Even in artificial cultivation these germs have very much in common. Bacteriology is, however, eventually going to assume very great importance in the classification of diseases. We have now two great and very distinct classes of disease, the infectious and non-infectious, or specific and sporadic. The infectious diseases may be spoken of as extra and intra-organismal in origin, or as Pettenkofer has said exogenous and endogenous, or to speak with Heuppe as obligatory and faculative parasitic diseases. Endogenous, or intra-organismal diseases, regarding their etiology, are those which depend upon the actual presence of a diseased individual: or something directly from such, for their origin and extension: Small-pox, syphilis-ganders. Extra-organismal diseases on the contrary, find their primary organ in conditions entirely independent of the presence of any animal organisms—typhoid, diphtheria, yellow-fever, swine-plague. Inoculable transmissibility has nothing whatever to do with it, notwithstanding the great authority of Robert Koch and his whole school. Koch makes himself worse than ridiculous when he speaks of the "contagion" of anthrax, simply because that and similar diseases may be transmitted to healthy animals by artificial or accidental

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inoculation. Anthrax finds its place of primary origin in the earth, never in any species of animal life. Although anthrax may be conveyed to a healthy individual by flies, or through the contact of a wounded surface with a diseased individual, that fact does not make out that anthrax is a contagious disease; it simply shows that it is accidentally transmissable. The fact that a dog or cat licking the mouth of a child that is afflicted with diphtheria and acquires that disease thereby does not make that disease contagious. It simply shows that it is capable of accidental transmission--inoculation if you will, but inoculation may be successful in either exogenous or endogenous diseases. Transmissability is no sign of the contagiousness of a disease. The sooner we learn this the better. We know that if we remove a small-pox diseased individual from a house and his immediate belongings and open the room to the air and thoroughly cleanse and disinfect it that danger of contagion is removed, but in a case of typhus abdominalis or diphtheria we may do all this, but still the danger to other persons has by no means been removed. The manner of primary origin should alone rule in these cases. One of the most important things to be considered in regard to germ life is nutrition.

The character of its food will determine whether a given germ may be pathogenic or not and it is because certain forms of animal life offer the specific food necessary to their disease-producing action that certain germs are pathogenic in one species and not in another. To illustrate the value of this point of nutrition, I place before you a non-pathogenic germ in two different media, both beef infusion gelatine, but to one 7 per cent glycerine has been added; in this you see the germ produces a ferment which causes it to break or separate the medium up into irregularly shaped masses separated from each other; while in the other, without glycerine, the medium remains a solid mass, the germ developing only along the line of puncture. In reality the nutritive character of the soil is the essential point to be considered in studying germ life. Sometimes this ground, as we may call it, is a constitutional peculiarity, at others it belongs to a species, at others it is acquired. If not present any germ, however dangerous, may be harmless. The swine-plague germ for instance will not affect cattle, nor will the germ of Texas fever (in cattle) affect swine under natural or artificial conditions. Nutrition is the one essential point in mycological as well as animal life to the condition of virulent activity. My investigations have led to a most surprising result which is determined by this condition of media, and that is, *that virulence in a culture is no criterion of preventive value in a cultivation of a germ of a non-recurrent disease.* In other words, a culture of such a germ may retain all its natural virulence, may reproduce the disease in its natural form by artificial methods in sufficient doses, but still the inoculation of a well-known amount of such a culture will have no preventive value, on the other hand by changes in the chemical characteristics of the nutrient material I can retain the preventive properties of the germ and lose its toxic or disease producing, or by still other changes both can be lost, and by still other we can retain both and by careful inoculation not only make the animal ill, but induce prevention as well. This discovery startled me very much at first, but I find it confirmed by observations and experiments of such eminent investigators as Chauveau in France and Hueppe in Germany.

In other words, strange as it may appear at first thought, these germs produce a toxic or disease producing principle, and another chemical substance which has prophylactic value and may be robbed of each at will, or made to retain both under artificial conditions of cultivation. Hueppe discovered this fact in a germ found in the earth which resembled Bacillus anthracis, but was non-malignant, yet inoculation with pure cultures of the same gave immunity against virulent cultures of bacillus anthrocis. Chauveau has done the same thing by subjecting B. anthracis to a certain atmospheric pressure of pure oxygen—my method is entirely different. It is chemical nutrition, pure and simple, and the result of over three years most exact experimentation. I would gladly tell you all about it, but the action of the government of the United States is so discouraging to original research in this country that I must, against my will and desire, retain the details of these experiments to myself.

I will close by inviting you all, or any members of the Chicago Medical profession, to my laboratory, 3600 Michigan Boulevard, at any time you may find it convenient.

Society Proceedings.

Chicago Medical Society.

A. E. Hoadley, M. D.....*President.*
Junius C. Hoag, M. D.....*Secretary.*
F. A. Holland.....*Stenographer.*

Chicago, Ill., Jan. 6, 1890.

Dr. B. N. Behrens exhibited and described a new form of inhaling instrument for nitrate of silver and other drugs.

Dr. M. R. Brown read a paper on *Certain Forms of Deviation of the Nasal Septum and their Treatment,* which was discussed as follows:

Dr. W. E. Casselberry: I have been much pleased with the manner in which the treatment of these cases has been discussed, as well as to view the several instruments which Dr. Brown has devised and adapted to the purpose. As stated, there is no one instrument which will effect removal of ecchondroses and septal deflections in all cases, and our ingenuity is frequently taxed in order to devise means adapted to individual cases, especially so when the ecchondroses or deflection is far back involving the vomer portion of the septum. My own disposition has been to use instruments of uncomplicated construction. Electric saws, for instance, in any but the most skillful hands, might do considerable harm. Of course one has the motor under control, it can be stopped and started at pleasure, still, oftentimes a saw will stick in the tissue through which it is cutting and, if by electric motor, the vigor with which it is driven could result in unnecessary pain or damage to the patient. I really see little advantage in the electric saw. The hand saw seems to answer all the indications; it is a little slower, to be sure, but especially where the deflection is quite far posteriorly it would seem best to operate with some deliberation. However, by virtue of its rapid action, the electric saw, in cases where the coast is clear for free operating, will have the advantage of

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accomplishing its work before the lapse of sufficient time for active hemorrhage to ensue.

Concerning the etiology of septal deflection, in connection with a certain clinic, I have recently observed many instances of adenoid vegetations in children, and quite uniformly therewith a high arched palate—a condition in which the palatal process of the superior maxillary bone which constitutes the floor of the nose and the roof of the mouth, is elevated so that the distance between the roof or superior portion of the nose and the floor of the nose is much shortened. The paper briefly refers to this as one of the causes of nasal deflection, but I am convinced that it is a more prolific source of septal contortion than is generally supposed. Adenoid vegetation among certain classes is very common. There results obstruction to nasal respiration and compulsory oral breathing, with increase of atmospheric pressure in the mouth and decrease in the nose, which serves gradually to force upward the developing palatal vault. In early life the septum is in a soft condition, only the vomer being ossified, the cribriform plate of the ethmoid being unossified until after the second year, and the cartilaginous portion quite soft, consequently the septum is unable to resist the pressure upward of the palate, so that with this abbreviation of its vertical nasal space the septum is obliged to deviate to one side or the other. Robertson, quoted by Delavan, attributes to traumatic causes one-half of the cases of deflection of the septum. This, it is likely, may be overstated; certainly a large number of the balance of the cases can be explained by obstruction of the naso-pharynx, in children, and for this reason among many others, the naso-pharyngeal passage should be kept clear in childhood. It is a matter of prophylaxis.

The influence of the nose as an exclusive source of reflex symptoms probably has been somewhat exaggerated. Unquestionably asthma, cough, spasm of the glottis, and other reflex manifestations do occur, excited by an initial irritation in the nose, but usually there will be found in conjunction a disability in the organ of manifestation, and superexcitable nerve centres—the three factors being essential to the production of the reflex cycle—for instance, those who suffer from asthma, excited by nasal polypi or ligpertrophic rhinitis, with septal excrescence will be found to have also bronchitis or emphysema, which provides in the organ of manifestation of the asthmatic symptoms—the lungs a point of least resistance; and also to possess peculiarly susceptible nervous organizations. Now, if the reflex cycle resulting in an asthmatic paroxysm, has for its initial link only the nasal irritation, the chain will be broken and the asthma discontinued by complete removal of the nasal source. Fortunately many cases are thus cured and many more greatly benefited according to the degree of completeness with which it is possible to relieve this nasal disease. But nature's disorders are not always of such simplicity, and one is not unfrequently disappointed to find subsequent to removal of the state of nasal irritation that, to continue our example, the asthmatic paroxysm still "goes marching on," the remaining factors continuing, having had provided from somewhere in the system, a substitute for the initial nasal link.

Dr. Henry Gradle: The paper presented very ably our present views on the subject of nasal deflections, but shows how very imperfect our knowledge is on this subject. As to the cause, as long as we are not familiar with the causes of growth in general, our knowledge of course, must be vague on this topic. Still I think at the present day some positive assertions may be made and perhaps some few points brought out that Dr. Brown did not cover in all their details. I think we can draw a sharp line between deflections of the septum proper and thickening of the bone or ecchondroses. What the cause of deflection of the septum is, is generally obscure unless it be a trauma, and very frequently the history of a trauma is given, but as injuries to the face are common in childhood it would be insufficient to assert that the history of a trauma is proof of its being the cause of the deflection. I have noticed where there is a marked deflection of the septum with decided convexity on one side, that this assymetry applied not only to the septum but the entire face. For instance, a septum deflected toward the left, as it is frequently, with concavity on the right, will usually have a more marked convexity of the face contour on the left side and a comparatively straighter face contour on the right, rather suggesting as if the maxillary bone had been somewhat arrested in its growth on the concave side of the septum and thus pulled the septum over toward it. I have moreover noticed that while deflections do occur in childhood, that ecchondroses and exostoses are very rare—much more rare than in adults. I may not have followed Dr. Brown's paper closely, but it seems to me he did not state fully the indications for operation. You will probably remember that before Bosworth published his Memoir on the subject in 1878, deflections of the septum were operated on as a rule only in cases causing marked obstruction; that very few surgeons thought of attacking a bone or thickened septum unless one side of the nose was pretty well occluded. Bosworth changed our views to some extent, claiming as he did, that all cases of true nasal catarrh were due to a thickening of the septum. In the present edition of his book he has retracted that to some extent, but still attributes to assymetry of the septum a great influence in the production of so-called nasal or retro-nasal catarrh. My own experience, which at first led me to hesitate to agree with Bosworth, has on close observation confirmed, on the whole, his assertions, and I attribute a great many instances of nasal catarrh and other nasal disturbances to assymetry of the septum. But assymetry of the septum may also exist to a considerable extent without causing the patient any annoyance. It is not so much the direct cause of suppurative rhinitis, or common catarrh, or post-nasal changes, as it is one of the predisposing conditions, and if the assymetry is sufficiently marked to encroach much on one side, a catarrh or suppurative rhinitis or some other morbid change which has been started may not yield unless the deflected septum is operated upon. But where this complication has not occurred we can often see septums very much deformed, which do not give rise to any annoyance to the patient.

Then a septum may sometimes be a source of irritation even without encroaching upon the caliber of the nasal parts to any extent. In those cases where there is a rather sharp ridge projecting, this ridge may be so small or the corresponding meatus so wide that there is ordinarily no occlusion, but still this pointed ridge may be a source of irritation leading to tempor-

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ary turgescence of the cavernous bodies and other annoyances in the nose. In such cases, as a rule we will find this ridge particularly sensitive, more so than any other part of the body, and there is marked benefit from removing this ridge, although it does not constitute a true stenosis.

As to the method of operating, I have become more and more convinced that Bosworth is right about the saw. The saw is the best instrument, and the less other instruments are used the cleaner and more readily will the wound heal. I have had perhaps a dozen cases in the last six months where I used the ecchondrotome but I cannot say that I like the instrument as well as the saw. The trouble seems to be that it will glide off from any sloping surface; if a slight ridge is projecting sharply it will answer very well, but where the ridge slopes gradually and there is a general encroachment upon the corresponding side of the nose by convexity of the septum I have never been able to do satisfactory work wish the ecchondrotome. In such cases I have found the chisel also is not so convenient as the saw and I have come to use the saw almost exclusively even for cartilaginous growths which are too hard to be attacked with the knife. I am strongly inclined to think that Bosworth is right in claiming that a perfectly straight and smooth wound gives the best chance for healing. I have found that the less after treatment there is the more kindly the wounds heals. I try to keep the wound under the influence of iodoform as far as possible. I use this powder and have the patient apply it, and where the secretion is not profuse from other causes, the powder will form a crust and the wound be as aseptic as it can be maintained under the influence of iodoform. In other cases I insert a piece of idoform gauze, but this is not always tolerated by the patient. Where I can maintain it in place or the secretion is so scant that the idoform will adhere to the surface of the wound, especially if straight, I find the wound heals with the least possible irritation.

Dr. M. R. Brown, in closing the discussion, said: Mr. President: I have little further to say in closing, simply that I thank the gentlemen for their criticism. I see my fault lies in not going into the subject more thoroughly, as the title of that paper would suppose I had intended, but my real object was to present these instruments to the members. As I stated, I prefer the hand-saw in many operations, but I have seen considerable in the medical journals recently about saws driven by the dental engine, and I thought I would try my hand at it. The one passed to you with the black handle, Porter's, is a very objectionable instrument. I have endeavored, and as you may observe have overcome some of these objections, also satisfied myself that the better instrument is the hand-saw. Where I can use the tubular knife I prefer it in removing ecchondrosis, and can utilize the instrument to a greater advantage anteriorly than posteriorly; I can also get better results from a concave than from a straight wound. A gentleman from whose septum I had removed an ecchondrosis with the saw a year ago came to my office last week. At the time of the operation the cut was made as close to the septum as possible. The turbinated bodies were so thickened that even after the removal of the deviation I noticed they came far over and almost in contact with the septum. I suggested that as soon as the wound healed I should use the cautery on them, but the operation gave him so much satisfaction that he refused the burning. This, as stated, was a year ago. When he came into the office last week I found there was another deviation to deal with. Had I made a concave wound in operating, the mucous membrane when reformed would have been even with the septum and not elevated and forming a point for the turbinate body to irritate and finally produce an ecchondrosis.

Dr. J. M. Patton read a paper on *Adventitious Vascular Murmurs:* A strict application of the term adventitious would include all the endocardial murmurs, organic and otherwise, as in the sense of being either acquired or accidental, they are adventitious to the cardiopathic state, as valvular lesion or organic disease of the heart may exist without the presence of a murmur.

In this connection, however, the term is used as referring to those sounds which arise in the heart or vessels in connection with and which are due to some pathological state of the circulating medium, and are not in any way connected with structural changes in the heart or vessels. While the nutrition of the vascular wall may be modified, and the elasticity thereby considerably diminished, and the conditions governing vascular tension suffer derangement, there is not any structural changes in the tissues.

The blood changes which give rise to these murmurs are those which obtain in conditions of anæmia, hydræmia, chlorosis or oligocythæmia.

The term anæmia is often used to indicate diminution in the amount of blood, without any modification of its character. Such a condition cannot be obtained, as the normal volume of blood would be restored by the obstruction of serosities from the tissues, and a relative hydræmia would be the result. In mild cases of simple anæmia there may be no diminution of red cells, but the hæmaglobin will be decreased. In well-marked cases the hæmoglobin may be down to 20 per cent and the red cells below 2,000,000 to the cubic millimeter instead of 5,000,000.

In pernicious anæmia the cells may be as low as 200,000 or 300,000 to the cubic millimeter, and the hæmaglobin 10 or 15 per cent.

In chlorosis there is diminution of cellular elements, the blood otherwise approximating the normal condition: this is actually anæmia, as far as the pathological state of the blood is concerned, and the terms should be therefore synonymous.

In hydræmia there is poverty of cellular elements, with diminution of albuminotic matters. Metalbumen and serine are what was formerly called albumen in the blood, the former in conjunction with fibrin being the product of decomposition of blood plasmine, as the chemical nature of the serous fluids in the bodily tissues, which replace the volume of blood lost in hydræmia, is not identical with the plasma or serum of the blood, hydræmic blood will be modified in its other constituents, as well as in the amount of cellular elements.

The diminished consistency of the blood obtained in the above conditions, favors the production of currents and eddies under certain conditions, and the production of murmurs. In some instances the causes favoring this deterioration of the blood can be discovered. Again, as in some cases of chlorosis at puberty, we are unable to find a cause. The development of the system sexually and otherwise at this

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period, either utilizes the cellular structures of the blood more rapidly than they are formed, or modifies their production. The exact nature of the process is not understood any more than the intimate nature of the action of remedies given for its relief.

The chemical affinity between oxygen and the hæmaglobin of the blood cells, as shown by the formation under favorable conditions of oxyhæmaglobine, has been considered important in connection with the absorption of oxygen by the blood. The dyspnœa which is present in all anæmic conditions where there is much diminution in the percentage of hæmaglobine in the blood, would substantiate this idea. Oxygen in combination with hæmaglobine is converted into ozone, and so utilized in the system. The experiments of Pakrowsky in anæmia and of others in healthy subjects, showing elevation of temperature, and increase in amount of urea eliminated after administration of iron, would indicate that the favorable results obtained from iron in anæmic conditions, are obtained through its power as an ozonizing agent.

There are three situations when these murmurs demand our attention; first in point of frequency in the jugular humming sound, called "Nonneugeräusch," by the Germans, and "Bruit de diable," by the French.

Next the subclavian murmurs, and lastly the intraventricular cardiac murmurs.

The physics of these sounds is generally dismissed with the statement, that the thin state of the blood allows of the ready formation of an eddy in the current; this explanation, correct as far as it goes, hardly covers the ground, else the sounds should be most pronounced in subjects who have lost considerable blood, and whose blood therefore becomes hydræmic, but these sounds do not present in robust subjects, after loss of blood, before alteration in those forces which control vascular tension has taken place.

The above theory answers for the sound in the jugulors, the lower part of the vein being attached and unable to collapse, room is afforded for the formation of currents, this is shown by the production of a murmur in healthy persons, by placing the neck in certain positions. With reference to the production of the subclavian murmurs, the chief factors are the integrity of the forces which control the tension of the vessel, and the integrity or tonicity of the vascular wall itself.

That there are vaso-motor nerves derived from the cerebro-spinal system, which control to a great extent the caliber of the vessels, the medium sized, and smaller arteries particularly, was demonstrated in 1852; withdrawal of this nerve influence by section of the nerve causes dilatation of the arteries in the area supplied. These fibers have been traced as far as the tuber annulare, through the medulla oblongata; any interference with the function of these centers, whether by lack of nutrition or from some other cause, may modify the control of these nerves over the vascular system.

The tension of the arteries is directly antagonistic to the force of the heart, and this tension is so evenly balanced as to transform the intermittent pumping force of the heart into a uniform steady pressure in the capillary spaces, aided by the elastic recoil of the arteries. An excessive tension may antagonize the heart's action so far as to produce congestion in the capillary spaces, by removing the force which promotes capillary circulation; excessive dilatation may also produce congestion, by supplying the blood faster than it can pass through the capillary spaces.

The vascular tension does not depend on the volume of the circulating medium; the volume of blood is soon restored after abstraction of blood, by taking up the serosities from the tissues, but the tension is modified because of the effect on the vaso-motor system.

In spasmodic arterial contraction, such as accompanies chronic renal disease, causing congestion of renal capillaries, with partial suppression of urine; the tension can be lowered by the so-called vaso-dilator drugs, which dilate the arteries sufficiently to allow of the forces governing capillary circulation to resume their action, the renal circulation is improved, the function of the kidney resumed, and the attack is relieved.

In those conditions in which vascular murmurs are obtained, the influence of the vaso-motor nerves being modified, one of the conditions favoring oscillation of the blood in the vessels is obtained, namely: diminished tension. This lessening of tension is never sufficient to interfere with capillary circulation, hence, there is no tendency toward congestion, while from the poverty of cellular elements the tissues are at times extremely pale.

The sphygmographic tracing will be modified according to the change in the vascular tension. The amplitude of the tracing is in inverse ratio to the tension of the vessels. Tension is directly opposed to the expanding force of the cardiac systole on the vessels; tension, therefore, lessens the distance between the lowest and highest points of the tracing; it also lessens dicrotism; the lower the tension the more marked the dicrotism.

The weight of the blood is an important element in the production of dicrotism, the lighter the fluid the slighter the oscillation, and the less marked the dicrotism, so that the elasticity of the vessel being equal, the variation in the tracing in health and in chlorotic conditions would depend on the difference in the weight of the blood due to absence of cellular elements and to the excess of albuminatic matters which may be present, plus the variation in the vascular tension. While the thinness of the blood in chlorosis, hydræmia and such conditions, tends to lessen the oscillation which produces the dicrotic impulse, it favors the formation of currents and eddies at any point of local constriction of the vessel, and the production of a murmur.

The explanation that these subclavian sounds are due to traction on the vessel from pleuritic adhesions, is not reasonable. They are heard only when the upper lobe of the lung is partially or completely filled with air. Traction from adhesion of pulmonary and costal surfaces of the pleura at the apex, would draw on the tissues around the vessel as much during forced expiration, as during inspiration. I do not see how it is possible to exert sufficient traction on the vessel in that way to produce a murmur.

Pressure from the tissue surrounding the vessel through expansion of the apex, is a more satisfactory solution. The apex of the lung extends sufficiently high, and forcible expansion of it may readily alter the relations of the tissues surrounding the vessel sufficiently to produce compression of the artery.

There is no regularity in the appearance of the sounds on the right or left side; they are present over

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the apex which furnishes the best expansion, and where one lobe is consolidated and the other lung compensating, the sound is best or only heard on the compensating side. I have not found these murmurs more constant in subjects with pleuritic adhesions.

In explanation of intra-cardiac murmurs of this variety there is no sufficient explanation of their presence other than the condition of the blood, but why a certain grade deteriorization of this fluid will furnish a scund in one instance and not in another is no more explicable than that the same degree of organic valular change will furnish a murmur in one instance and none whatever in another.

Niemeyer, in speaking of these "blood murmurs," deprecates the name because they are not due alone to the condition of the blood, but probably to abnormal tension of the vessels and valves. He does not define what is meant by abnormal tension. Diminished tension we have seen favors production of these sounds in the vessels, but this element would not account for the intra-cardiac sounds, as they are not produced at the valvular orifices, and it is doubtful if increased or diminished tension is an element in their production.

They have been attributed to fibrous strings stretching across the ventricle, or to changes in the structure or relationship of the papillary muscles or chordæ tendinæ; these are simply hypothetical fancies, as no such conditions have been demonstrated; moreover, such conditions are not compatible with the character of the murmur.

With the exception of intra-cardiac murmurs, the diagnosis of these sounds is not difficult. The jugular murmur readily disappears on compression of the vein, and can hardly be confounded with any other murmur. The subclavian murmurs are blowing sounds, varying from a soft, low pitched to a rather harsh, high pitched sound, sometimes very faint, sometimes very loud.

They are heard only during the cardiac systole, or more strictly speaking are post-systolic, they are present during the latter part of the inspiratory act, and the beginning of expiration.

Such a sound could be produced by a tumor pressing on the vessel, or by aneurism, the appearance of the sound on inspiration, and disappearance on expiration excludes these conditions.

In the heart the diagnosis of these murmurs presents some difficulties, also more interest, because of the necessity of excluding organic disease of the organ. As a rule the character and direction of transmission of organic murmurs, will afford the necessary points for differentiation, but not always.

The anæmic murmur is generally alluded to as occurring in the left ventricle. This is not necessarily the case, although the great majority of those which are audible are probably produced in that situation. I have heard murmurs evidently produced in the right ventricle, and affording much the same character as pulmonary stenosis, with the same direction of transmission, to the left of the sternum along the line of the third rib, and whose disappearance under appropriate treatment proved them to have been anæmic.

Murmurs of this variety produced in the left ventricle are much more plainly heard, always systolic, soft blowing, low pitched sounds, having an area extending from the base to the apex, and from the right edge of the sternum to the mammary line, and are heard plainest above the fourth rib, half an inch to the left of the sternum. Ordinarily the area is much less than that given above.

They will be confounded only with organic systolic murmurs, and with the so-called cardio-respiratory murmurs.

In aortic stenosis the point of greatest intensity is to the right of the sternum, and transmission into the carotid usually plain. The character of the sound is much harsher in some cases where the character of the sounds approximate if there is a loud jugular bruit, the pressure on the jugular with the thumb, which is necessary to control the sound in that vessel, may give a carotid systolic sound, much resembling slight aortic stenosis. If the jugular is not compressed the hum covers all other sounds in that situation; this combination may be very confusing at times.

In mitral regurgitation the transmission to the left, and at the back has been considered diagnostic, but this may be misleading. I have found anæmic murmurs transmitted to the left into the axillary region. Have never been able to detect them posteriorly, but as the spinal transmission of mitral organic murmurs is not constant, it can readily be seen that there is ground for confusion. Anæmic murmurs cover more sternal space than mitral organic sounds, and are also heard further upward in a perpendicular line from the situation of the apex beat. The sound can hardly be softer than some mitral regurgitations, but it seems as though further removed from the ear.

Cardio-respiratory murmurs have much the same qualities as anæmic sounds, but are shorter, and of course cease during suspension of respiration. The expiratory form is more apt to be misleading than the inspiratory form.

The treatment of the conditions giving rise to vasculor murmurs is familiar to all and hardly comes within the scope of this paper.

Clinically these murmurs present most often in connection with chlorosis in women, young women between 15 and 20.

The improvement of nutrition being the main object, are the nutritive tonics, together with proper diet and moderate exercise are of service. Oxygen inhalations are sometimes beneficial.

The greatest benefit will be derived from large doses of iron. If there is any question which would, from a therapeutical standpoint, more thoroughly puzzle the modern Homeopathic to elucidate, either from the doctrine of *similia similibus*, or that of minimum dosage, than the action of iron in these conditions, I have not discovered it.

Iron should be given in that form in which it is most readily assimilated, and that is a freshly made carbonate of iron. The old formula of Blaud's boli is a good one, modified slightly to suit modern therapeutics.

The therapeutical theory, that only a certain amount of iron is taken up by the system, and that a very small amount, stumbles against the clinical fact, that the more these patients take the faster they get well. Whatever advantage there may be in the carbonate of iron pills furnished by the various drug houses, they are not nearly so efficient as a freshly made pill. These should be made as follows: Equal parts of sulphate of iron and carbonate of potash,

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pure, should be rubbed together until reaction has taken place. This will give a more or less soft mass according to the amount of moisture contained in the potash. The same quantity of powdered sugar is rubbed into this mass as there is present of either of the drugs, sufficient powdered althea is then added to harden the mass to the proper consistency. The medicine should be given after meals, and should be increased every two or three days by addition of two or three pills daily. Attention should be given to the digestion, if there is flatulency, eructations, acid or gaseous, or indigestion, pepsin, lactopeptine, powdered charcoal, bromide of soda and such preparations will be of service.

Dr. J. J. M. Angear. There are one or two additions I would like to make to the valuable paper, that is with reference to the modification of the sounds of the heart going through a large amount of muscular tissue. We must always bear in mind that muscular tissue is a very poor conductor of sound, and at the same time bear in mind that bone structure is a very good conductor, and as we diminish or increase the amount of muscular tissue through which the sound has to travel, we shall have those sounds modified; there will be a sharper sound in the one and a duller sound in the other, and some sounds will be lost, and in emaciated patients the sounds will be very readily heard all over the thorax because of the bony structure conducting the sound. And again, we have to bear in mind something of the nervous condition of the patient; the sounds would be modified somewhat by that peculiar condition without there being any variation in the quality of the blood; without any difference, as far as the amount of muscular tissue is concerned, that peculiar nervous condition where the heart will contract more abruptly than in the opposite condition, so that the nervous person will produce a different sound from the person who is not nervous, when the heart and blood are one and the same. Again, with reference to the tension; I think that the nervous system must be taken into consideration—however, I do not know but the writer of the paper alluded to that to some extent—we may have, as it were, a small artery but wiry and considerable tension, while we may have a tension through increased volume of the blood in the artery, not necessarily plethora without that nervous condition, and then we shall have a large artery which we can roll under the finger like a hard cord, perhaps what the doctor alluded to as the high tracing of the sphygmograph. Those of us who have been observing the tracings at all understand the amplitude, as, for instance, the distance from the lowest point to the highest point, and if we have a large artery with high tension, as a matter of course the amplitude will be short and it will be up, as the musician would say, high in the scale, while the wiry pulse will give short amplitude, but will be low in the scale; both of these conditions will give short amplitude—one will be high, while the other will be low in the scale.

Dr. J. M. Patton, in closing the discussion, said: I would simply say in regard to the remarks on tension, that my effort was directed toward making the point, that tension does not depend upon the volume of blood, but does depend upon the nervous system which governs the caliber of the arteries. The tension in the blood vessels may be very quickly lowered by abstraction of blood, the column of mercury in the hæmodynamometer will fall very readily after the abstraction of a few ounces of blood, but in the course of a very short time it goes back to nearly the former height, which is owing to the volume of blood being restored by the abstraction of serous fluid, at the same time the artery is not so rigid and the sphygmographic tracing will give more amplitude after the modification of the tension by blood-letting than before, the same modification that you will get in increased vascular tension by the exhibition of drugs. The point was that the tension depends on the nervous system and not on the volume of blood. As far as the character of the heart sounds is concerned, I do not see just what connection the facility with which they are heard though a muscular or bony tissue would have with the sounds under discussion. Of course if you have so much tissue that you cannot hear a sound, you are unable to diagnose the condition or to diagnose the fact that the sound is there. A heart sound may be loud enough to be heard all over the chest, anteriorly and posteriorly, and even for quite a considerable distance along the vessels.

Dr. F. E. Waxham read a paper entitled, "*Have we an Infallible Treatment for Diphtheria?*—From time to time certain remedies have been brought before the attention of the profession and the public and the most exorbitant claims made as to their efficacy. Many of these remedies have been found useful, some useless, some positively injurious, and none at all entitled to the name of a specific. Recently a line of treatment has been proposed and advocated with the greatest earnestness, zeal and eloquence. It not only has been advocated as infallible but the declaration even made that the ordinary preventive measures were unnecessary. Such teaching should not pass unchallenged and I therefore crave your indulgence and raise my voice in opposition.

There is no specific remedy for diphtheria and there never can be one, and this can honestly be said without any discredit to the medical profession.

All accidents and physical injuries vary in degree, from the most trifling to the most appalling. All attacks of diphtheria in like manner vary in intensity; some mild and insignificant and unassociated with danger, others again of the most malignant and virulent type and entirely beyond our control. Not only this, but each individual varies in resisting power and in inherent vitality. A disease that kills one patient may be recovered from in another, under the same identical treatment, on account of this greater vitality.

It is just as unreasonable, just as absurd to believe that we can cure every case of diphtheria as it is to believe that we can prevent death in every case of accident. True it is that in case of physical injury we can often prevent a fatal issue. We can ligate the severed artery, we can set the broken limb, we can dress the wound antiseptically, and often conduct a case to safe recovery that otherwise would surely perish. The same is true of diphtheria; by careful nursing, by the *early* and *thorough* application of the most approved methods of treatment and by timely surgical interference, we can save many a case that would just as surely perish; but to claim that all cases can be cured and that we have an infallible remedy, is asserting more than human power can accomplish. In proof of these assertions I would report two cases coming under my observation where death occurred

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in spite of the most rigid employment of so called infallible treatment.

Case I.—I was called Dec. 20th, in consultation by Dr. Geo. E. Willard, to see a boy between two and three years of age and learned that the patient had been sick three days with diphtheria. He had a year and a half previously suffered from a very severe attack of diphtheria and croup from which he recovered after being desperately sick. He had recently been in good health and his present attack seemed only of moderate severity. Upon examination it was observed that the uvula was elongated and with some membrane formation upon it, some exudation was also present upon the læteral walls of the pharynx and the nasal cavities somewhat involved. The pulse was good, the child bright and altogether the case seemed a hopeful one; so much so that a favorable prognosis was given. The patient had been from the first upon full and frequent doses of iron and general supporting treatment.

In view of the fact that an infallible remedy had been proposed, we felt it our duty to give it a trial, and it was remarked by Dr. Willard that this would certainly be a fair and safe case in which to test it. In place of other treatment the child was given the following mixture:

℞ Tr. Myrrh.....ʒ iij.
Potass. Chl.....ʒ j.
Acidi Carbolici.....gr. iv.
Mel.....ʒ iv.
Aquae, qs. ad.....ʒ iv.

M. et. Sig: One-half teaspoonful every half hour.

The same mixture was used as a spray for the throat, and diluted one-half and also used as a wash for the nasal cavities. Stimulation and proper nourishment was also insisted upon.

The medicine was given with religious fidelity, but from the time of its administration the patient began to fail. Still the medicine was continued faithfully and regularly, but in spite of its infallibility the patient died within twenty-four hours.

Case 2. December 21 I was called by Dr. E. R. Bennett to operate upon a patient with diphtheritic croup, but upon arrival found the child dead. Dr. Bennett has kindly given me the following history:

Ida R., aged 2 years and 2 months, always had been considered delicate by her parents. Had pharyngeal diphtheria six weeks before and recovered. Was called to attend her last illness Dec. 19, 1889. History given was a slight fever, very marked restlessness, a distinctly hoarse, ringing cough, with no expectoration. These symptoms only existed twenty-four hours before my arrival. The difficulty of breathing increased rapidly. Inspection of fauces showed a diphtheritic deposit covering both tonsils. Diagnosis, diphtheritic croup. Prognosis, grave.

Commenced immediately the administration of the myrrh mixture, as advocated. Also administered the juice of a fresh pineapple, a teaspoonful every half hour. Inhalations of the vapor of lime were repeated at intervals, and the atmosphere of the apartment was moist constantly with the same. In spite of all medication the voice rapidly became extinct, the pulse failed and patient expired on the 21st, three days after the onset of the disease.

In this case operative measures were postponed on account of the faith in the infallibility of the treatment. I have since learned that subsequently another child in the same family was taken with the disease and was in an alarming condition, but have not been informed as to the result.

It may be said that no conclusions can be drawn from the report of two cases. Two *fatal* cases, however, are sufficient to destroy the reputation of any line of treatment for infallibility.

In conclusion I would again repeat that we have no specific for diphtheria, and would insist upon still clinging to old and well established methods of treatment. The *frequent* use of iron in *full doses*, free stimulation, abundance of nourishment, watchful care, antiseptic gargles and washes for throat and nose, strychnia and digitalis in case of depression, and the bi-chloride of mercury when the larynx becomes invaded. These remedies are our sheet anchors in the treatment of diphtheria, and no specific remedy can displace them; while isolation, ventilation and disinfection are safeguards that should NEVER, NEVER be omitted.

Dr. Waxham also read a paper entitled: *Shawl Pin in Right Bronchus for Three Months, Successfully Removed.*

Shawl pins in the air passages are of such rarity that I feel justified in still further encroaching upon your time, by reporting a case presenting many features of interest.

November 21st I was called through the courtesy of Dr. R. Melms to see Louis L. a boy of ten years and learned the following history: In the latter part of August he was playing with a toy air gun and dropped into it, point first, a large black-headed shawl pin. The point of the pin became fastened and he could not rattle it out; nothing daunted he determined to have the pin or die in the attempt. He placed the muzzle of the gun to his lips and taking a long powerful inspiration succeeded in getting the pin from his gun into his trachea. As he had dropped the pin point first into the barrel of his gun it consequently entered the trachea head first with the point upward. After it entered his trachea he coughed a few times and stated that he feld it fly up in his throat and then drop back again. A druggist was consulted who recommended castor oil and plenty of oat meal. Thinking it had passed into the stomach and that these simple measures would prove sufficient, the matter was soon dismissed from the minds of the parents and the accident soon forgotten. However the boy continued to congh and very peculiarly and frequently; the cough was loud and barking in character and attracted the attention of all hearing it. He suffered no pain whatever and continued going to school, although his cough annoyed his schoolmates and necessitated an irregular attendance. Two months after the accident an attack of pneumonia occurred and Dr. Melms was called in attendance. A circumscribed inflammation occurred in the right lung, bloody expectoration occurred and the temperature rose to 104. The accident was now recalled to the parents who related it to the doctor, who at once determined that the presence of the pin was the cause of the pneumonia. The attack lasted two weeks when resolution occurred and the boy soon regained his usual health excepting that his cough continued to annoy him. At this date, November 21st, a most careful examination of the chest was made with negative results. Laryngoscopic examination also failed to reveal the presence of the pin. The history of the case however seemed per-

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fectly clear, and indicated beyond doubt the presence of the pin somewhere in the air passages. An operation was strongly urged notwithstanding the uncertainty of getting the pin even if located. It seemed the only course to pursue. December 1st consent to the operation was given and assisted by Dr. Melms, the attending physician, Dr. Clark of Wyoming and Dr. Roberts of Ohio, I performed tracheotomy, the patient being under chloroform. Dissecting down, carefully avoiding large blood vessels, elevating the thyroid gland and reaching the trachea below it with very slight loss of blood. Incission was made through three rings of the trachea and I then introduced a laryngeal sound down into the right bronchus and located the needle by the metallic click. Careful measurement was then made and the needle located five and a half inches from the incision in the trachea. A long pair of slender forcepts slightly curved was then introduced into the right broncus and the needle grasped, fortunately near the point, and removed at the very first attempt and without the slightest difficulty.

The patient made a rapid recovery without an untoward symptom. Within a week the tracheotomy wound had closed and the cough had entirely disappeared.

Dr. Patton. I would like to call attention to one point in the diagnosis of small bodies in the air passages, such as shawl pins, grains of corn and bodies of that nature. Of course a diagnosis is extremely difficult and sometimes impossible, but judging from some little experience I have had in these cases, and theoretically, the only sign we can depend upon at the time the accident happens, is the character of the respiratory murmur, in making out which lung is suffering from stenosis of the bronchial tract. In cases where there are small bodies of this nature in the bronchi, there is no difference in the expansion on the two sides; there is no difference in the character of the murmur on quiet breathing, but on forcible and rapid inspiration and expiration, the respiratory murmur on the unaffected side is puerile in character because there is more air in there, while on the opposite side it is the opposite. The point is the comparative length of the expiratory act upon the two sides, being rapid on the unaffected side and prolonged on the affected side. The character of the respiratory murmur is the only thing I know of that will give diagnostic points immediately after the entrance of a body. I have even heard the sound down into the axillary artery, but that would have nothing to do with the difference pointed out between the enemic murmur and the organic murmur, the point of greatest intensity would be just the same, the direction of transmission would be just the same, and the physical and musical characteristics of the sound would be just the same.

Dr. M. R. Brown said: Among unreported cases of foreign bodies in the bronchi, I would mention three that have come under my notice. One was a case in which a grain of corn lodged in the bronchus. Tracheotomy was performed and the corn removed, but the child died in a few moments after the operation. The second case was also one where a grain of corn had lodged into one of the bronchi. Operation was refused, and the patient died within a few weeks. In the third case a cockle bur was drawn into the larynx and getting into the trachea entered the right bronchial tube. Operation was not undertaken. The patient died in about two months. The last case was a girl 16 years of age. Both the former were children, females, under 10 years.

Dr. G. C. Paoli: In regard to diphtheria I will only make a few remarks, because we have already discussed that subject in previous meetings. As to the pathology of the disease, the illustrious Bietonneau, in the beginning of this century held the same ideas, as our worthy president: that it was a local affection, but his large experience in hospital as well as private practice, soon convinced him that far from being a local affection, it was manifestly a constitutional disease. We know that pathology has advanced greatly in the last century, and nearly all the German, French and English authors are of the same opinion—that it is a constitutional disease. Diphtheria is often insidious; sometimes of a mild form, and then again of an asthenic form. How often we see the disease in its mildest form apparently, when all at once it changes to the asthenic, and the patient dies suddenly of septic poison. And though we are generally satisfied when the membrane is detached, we are sometimes doomed to sudden and great disappointment, still it does not follow that every case must necessarily prove fatal, for recovery depends upon the true form of the disease.

Dr. Angear: Mr. President, I was going to call attention to the fact that in 1861 we had a large amount of diphtheria in Wisconsin, where I commenced practice, in company with two other doctors who previous to that time had been swabbing out the throats with a solution of nitrite of silver and losing about every patient. We received at that time Braithwaite's Retrospect, which gave a formula for diphtheria, the compound tincture of cinchonia, tincture of guaiacum and I think some chloride of potash. We concluded to try it and after using it we did not lose a patient during the remainder of that epidemic, and we came to the conclusion that we had found an infallible remedy for diphtheria. But it was just about the same as when the older practitioners found a remedy for cholera at the close of the epidemic; the disease itself began to fade and therefore the remedies were apparently successful, and they thought they had found some infallible cures for cholera. Infallible remedies are always found at the close of an epidemic. What I want to get at is simply this. I think a majority of our authors agree that there are microbes in the diphtheritic throat and that they are doing mischief. Alcohol is detrimental to all microbic life and the guaiacum is decidedly a stimulent, so is myrrh; is it not the alcohol in those tinctures which does the good and not the cinchonia, guaiacum nor the myrrh? And now for a friendly criticism upon that formula for the myrrh mixture if you please; there is honey in it, which is not detrimental to microbic life but they will thrive in it. I presume the honey is put in to modify the harshness of the myrrh. A little glycerine would answer the same purpose, and glycerine is antiseptic; it will destroy microbes, and I think it would be a decided improvement in that preparation. I am inclined to believe there is something in the theory of applying a microbescide and a stimulant constantly to the diseased part, or the part where these microbes are, but I am inclined to think that it is the alcohol that does the good. I am of the opinion that alcohol, glycerine and iron, administered as the myrrh mixture is administered, a few drops going

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over the part constantly will be as good if not better, but I should certainly leave out the honey because it is feeding the microbes while the other ingredients are trying to kill them.

CHICAGO, Jan. 20, 1890.

Dr. H. Gradle read a paper on *The Management of Blepharitis.*

Dr. Joseph Zeisler: I was very much interested in Dr. Gradle's paper inasmuch as I am, to a certain extent, responsible for his experiments with sulphur. This treatment with sulphur and resorcin was suggested to me by clinical observation, which probably many of you have made, namely, that one form of blepharitis, the scaly variety is nearly always associated with that condition of the scalp, which is usually called dandruff; and in many of these cases not only the scalp is affected, but we also find the same condition in the sternal region, the osillac, inguinal region, etc. The blepharitis then only forms one symptom of that well known skin disease which was described in such a masterly manner by Unna a few years ago, and which he called eczema seborrhoicum. The two remedies on which we cah rely in this affection and which act like specifics, are sulphur and resorcin. If we use these on the scalp only, they may be employed in a considerably stronger proportion than we would dare to use on the eye. When speaking to Dr. Gradle about this matter, I thought that perhaps four per cent each of sulphur and resorcin would be as strong as it could be used. I am not surprised to hear that he has found this treatment so effective, for, as regards the skin on other parts of the body, I may assert that a treatment of one week will cure, sometimes, a very old affection of the scalp. Dr. Gradle has drawn a very interesting parallel between the forms of blepharitis and similar conditions of the skin, but I am surprised that he did not touch upon one dermatological affection, that is, sycosis. I have no doubt that a great many cases of blepharitis are entirely identical with what we term sycosis, and in epileting some of the eyelashes we can see that peculiar infiltrated condition of the hair roots which is so characteristic for the ordinary sycosis. The presence of the pus microbes, the haphylococcus albus scureous could only strengthen this view, for we know from Bockhart's researches that this parasite causes three distinct skin affections, namely: impetigo, furuncle and sycosis.

Dr. F. C. Hotz: Mr. President, I fully agree with the essayist, that clinical observations show there are two distinct diseases included under the name of blepharitis; that the ulcerative form is a different pathological condition from the scaly or squamous form. Clinically, I think it is proven by the fact that the one does not pass over into the other. I have never seen a so-called scaly blepharitis pass over into the ulcerative form. In the ulcerative form, if it is a true blepharitis, the pus appears along the edge where the eyelashes come out; we can see that the pus points are actually pierced by the eyelashes, showing that the formation of pus takes place in the follicles of the eyelash and that the affection is actually a sycosis. As to the management of the two distinct diseases, I shall only refer to Dr. Gradle's remarks on the scaly form, as he only passingly touched upon treatment of ulcerative blepharitis. Some 15 years ago I tried sulphur, not in the shape of an ointment, but as an emulsion which I penciled along the edge of the lid; but my results were not satisfactory at the time. But the sulphur may be more effective in an ointment because it can be more thoroughly rubbed into the skin and the openings of these hair follicles. However, I abandoned it at the time and I have had no occasion to make any change in the application I have been in the habit of using, which is the yellow mercurial ointment, because that has given me so much universal satisfaction.

I am surprised that the Doctor says he has often found this remedy to fail even under ordinary circumstances, that is to say in blepharitis without complications arising from the state of the nose or eye strain, or any of the causes he mentioned as complicating blepharitis. I say "*complicating*," because I do not believe they actually produce the blepharitis ciliaris, but simply complicate matters, for the same reason as any continued irritation renders an inflammation of the conjunctive, for instance, more obstinate, less amenable to trertment. Where a patient with a simple catarrhal conjunctivitis persists in exposing his eyes constantly to the atmosphere filled with smoke and dust, certainly our efforts, which have proved sufficient to cure simple cattarrhal conjunctivitis in hundreds of cases, will not be successful under these particular conditions. In the same light I look on these causes mentioned; I believe that any irritation started in the nasal passages, any irritation produced by efforts of accommodation or what we call eye strain, or any other irritation will aggravate the disease and make the treatment of these cases more difficult. But usually, under ordinary circumstances I have found the mercurial ointment, that is the yellow oxide of mercury, perfectly satisfactory. It is true I have seen cases time and again where it has not done well, but then the cause of the failure was not in the medicine but in the mode of application. The treatment is simple, but you must know how to apply it; if you simply prescribe an ointment and tell your patient to apply it to the edges of his lids you will never succeed. If you wish the patient to use it at home you must show some one how to make the application, because it cannot well be done by the patient himself. I have often known patients to use an ointment and come back after a week without any improvement of the eyes, when one application made by myself at my office at once brought about a decided improvement which was not only visible to me but also appreciated by the feeling of the patient on the next day. The point is simply this; that these fine scales have to be removed thoroughly and they can easily be removed mechanically without doing injury to the eye or inflicting pain upon the patient; then, for instance, if you apply the ointment to the upper lid the eye must be closed; and there is a little knack in turning the free border of the upper lid out without opening the eye. The eye must be kept closed by pressure and at the same time the skin must be stretched so that the eyelashes turn upward; then you can rub on the ointment thoroughly and fearlessly without getting anything in the eye, because what passes beyond the eyelash, and does not enter the mouth of the ducts, will get on the skin of the cheek, and not on the free border of the lid. If it gets into the eye it is bad because it irritates and that irritation counteracts the good effects of the application. This application is difficult for any one to make on himself,

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and some one else must be told how to do it, but it will never be done as well as when applied by the physician himself. I think the yellow mecurial ointment, in the ordinary uncomplicated cases, is just as efficient as the sulphur; the success depends not so much on the choice of the remedy as on the proper mode of application.

Dr. J. E. Colburn: I listened attentively for Dr. Gradle or Dr. Hotz to give some key to the method of cleaning the lids, because I think that whatever remedy is used, the most important of treatment is cleaning and removing the scales or scabs from the margin of the lids, doing the least amount of damage, and producing the least amount of irritation.

It has been my practice for a number of years to use a warm solution of bicarbonate of soda and having the patient apply it repeatedly with a sponge, or what is better, a pledget of cotton, saturated in it until these scabs or scales have been thoroughly softened, and then gently remove them and expose the surface of the lid. It matters little which remedy you use if the lid is properly prepared for the application of the ointment. Nitrate of silver in the suppurative forms is certainly a very valuable remedy. I have been using a 95 per cent solution of carbolic acid, applied carefully to the margin of the lid; but in order to do this, you must prepare your applicator with a great deal of care. I take a toothpick and wind on the end of it a very carefully prepared applicator and dip the very tip of the pledget into the carbolic acid, allowing capillary attraction to draw the carbolic acid up into the applicator and then apply that to the margin of the lid, always doing it with extreme care and making the application thorough. The use of the yellow oxide of mercury in other forms has always answered my purpose; I seldom have occasion to make any change of application.

But the most important thing in my experience has been to teach the people how to clean the lids, and I always go over that with a great deal of care. The frequent bathing of the eyes with a warm solution of boracic acid or the chloride or bicarbonate of soda I think is important. After making the application of either of these solutions I frequently protect the lid with a coating of tanoline, allowing it to remain upon the lid for some time afterward.

Most important of all in the treatment of these cases is the removal of the cause of the irritation error of refraction, nasal irritation, or tracoma high up in the retrotarsal folds.

Dr. W. F. Coleman: Mr. Chairman, the discussion of Dr. Gradle's interesting paper has brought out one point which I was glad to hear discussed, as to the causative factor of blepharitis; of course the treatment must largely depend upon the cause. While Dr. Gradle mentions incidentally eye strain, and seems to put a good deal of faith in that as a causative factor, Dr. Hotz seems to think that that is only a complication. While it is a point that is very difficult to prove, Dr. Roosa has drawn attention to the fact that eye strain, principally by error of refraction due to hypermetropia directly produces blepharitis. Mentioning this the other day to Dr. Zeisler, I asked him what blepharitis is and he replied that it is a sycosis. I find the more recent authorities agree with Dr. Zeisler, while the older text books do not mention it as sycosis at all. I admit that it is difficult to prove that eye strain has anything to do with blepharitis, still 75 per cent of the cases in the Manhatton Infirmary had hypermetropia and that seemed to prove some connection. If this is a parasitic disease—and I believe sycosis is a parasitic disease—then the parasite must have a soil; it does not attack a healthy soil but one that is unhealthy and that soil may be produced by eye strain, resulting in simple inflammation of the margin of the lid which makes a good soil for sycosis. The difficulty in proving the effect of hypermetropia, however, is that, in my belief, the majority of persons are hypermetropic. Taking all cases in my practice of refraction together, perhaps not one in twenty-five is myopic, while 75 per cent of all patients show some hypermetropia. I believe that eye strain is one of the factors in this disease. I would like to ask Dr. Gradle if in his experience any attention has been paid to the question whether eye strain is not due to insufficiency of the ocular muscles? So far as the treatment goes, it is a very routine practice to use carbonate of soda to cleanse the lid and is a very important point which has been well emphasized. I have had a very slight experience with Dr. Zeisler's sulphur treatment but certainly those cases in which it was used have done better than previous cases with red oxide of mercury ointment. Again it has not been sufficiently emphasized that those cases due to sycosis seem to do better by removing the hairs. I do not think the cases I have treated without correcting the refraction have done well.

Dr. Henry Gradle: Mr. President, some of the questions asked and some of the opinions mentioned induce me to dilate to some extent on my position as to the difference between an exciting cause and predisposing influences, especially in the case of blepharitis. In the case of the suppurative form, we have no right to doubt that it is essentially a parasitic affection. In the case of the scaly form, it may be parasitic or it may be due to some constitutional influence. Most authors agree that the only direct exciting cause is parasitic, be the parasites staphylococci or other bacteria. These are the only exciting causes but they do not attack many eyes except when there are certain influences favoring their invasion of the tissues. These influences, as I have said, are insufficiency of the lachrymal apparatus, eye strain, and some form of nasal disease. I have never met a case of ulcerative blepharitis where I could exclude all of these conditions with certainty. In the squamous form, one or the other of these conditions is probably also always present, but I am not so emphatic on this point because I have not always looked for them. These conditions evidently predispose the lids to the invasion by the parasite. We can readily understand how eye strain and nasal disease may have this effect, on the one hand by frequent lachrymation even with perfect lachrymal ducts, and on the other hand by interference with the venous circulation of the lids which shows itself frequently by dark circles around the eyes. These predisposing conditions are sometimes so potent that local applications are insufficient to remove the condition. These cases are in the minority in the squamous form at least, though in a large minority in the ulcerative form. In other cases the predisposing influences are not potent enough to prevent a temporary and even a permanent cure. I might parallel this to ulcers of the leg from varicose veins. Perhaps in the majority of cases we cannot cure the ulcers until we

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reduce the large veins, but once in a while we see patients suffering from varicose ulcers get well without having the veins treated, even if this does not happen often. As to the importance of eye strain, I may say that on looking over my experience I recall very few cases of blepharitis in myopia, and those who had blepharitis had probably had astigmatism. In the great majority of cases of blepharitis we can detect some form of eye strain, either hypermytropia or astigmatism, still it is very difficult to decide on the causative condition of the eye strain. Once in a while cases will not do well until we correct the eye strain by glasses, although the patient may not complain of fatigue or other sensations attributable to eye strain. As to the treatment with mercurial ointment, I admit that this is successful in the majority of cases but not always, while it is never so rapid in its action as the sulphur ointment. Formerly my experience was, that in the squamous form when the patient returned after a week's absence, having properly used the treatment, he was better, and after two or three weeks he might be considered well; but if he quit the treatment then he was quite apt to have a relapse. My experience with sulphur has not been long enough to determine the question of relapse, but I have been agreeably surprised when first using the treatment to have patients return after one week completely cured and they were invariably cured in two or three weeks, provided the case was curable by local application without surgical treatment of the complicating conditions which, as I have maintained throughout my paper, sometimes prevent success by local means alone.

Frank S. Billings read a paper on *Bacteriology in its Relation to Medicine.*

Dr. Bayard Holmes: It seems hardly courteous on the part of this society to have listened to some very forcible and very novel ideas from Dr. Billings and let them pass without any remark. For my part I want to at least say that I feel very grateful to him for what he has said.

Dr. W. T. Belfield: To attempt to criticise the remarks of Dr. Billings would be quite presumptious in us, inasmuch as we are but amateurs compared to his professionalism, and yet it seems to me the influence of his favorite master, Virchow, is brought out just a little too prominently to suit some of us who studied under Koch. I want to say, however, that I have had the pleasure of visiting Dr. Billings and seeing his laboratory, and I think it will be a revelation to all who have not seen a working pathological laboratory. Even if we have no special interest in bacteria other than a financial one, it is a matter of value to see how this work, of which we read so much and get at second hand, necessarily, is done, and that can be seen in Dr. Billings' laboratory. I am sure we should hesitate to impose upon him any of the burdens he so kindly promises to assume, yet it would be beneficial to any member of the society—and I am sure a pleasure to Dr. Billings—to inspect that laboratory, and I would certainly advise every one of you to take advantage of his hospitality.

An epidemic of diphtheria broke out in Augburg Seminary, in Minneapolis, Minn., and before the disease could be checked eleven cases were developed. The cases were on the road to recovery at last reports. None had resulted fatally.

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The Editor would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information should be accompanied by the full name and address of the writer, although not necessarily to be published.

All communications should be addressed to

WESTERN MEDICAL REPORTER,
163 State Street, Chicago.

Chloroform in Labor.

A plea for the use of anæsthetics in labor from the pen of Dr. Arch Dixon, of Henderson, Ky., appears in the January number of the *Medical Mirror.* The grounds for his advocacy of chloroform are the hackneyed ones of the safety and comfort to the patient and non-interference with the uterine contractions. We hold, that although the liberal use of anæsthetics in labor is probably safe in Dixon's hands, they are apt to prove dangerous if used in a routine manner by the average practitioner. It is singular that so wide a variation in results is reported by various operators. Personally, we must confess that we cannot use chloroform as skillfully as Dr. Dixon apparently does. With the experience gained at the N. Y. Maternity Hospital and a by no means small field of work in private practice passing before our mental vision, we are of the fixed and immovable opinion that chloroform *does* interfere with the uterine contractions and most decidedly *favors* post-partum hemorrhage. Used for the purpose of allaying suffering and *retarding* the last few pains—so dangerous to the integrity of the soft parts—we consider anæsthetics a *sine qua non,* but for the purpose of attaining painless labor, we believe them hazardous. But we must remember that Kentucky midwifery has strong "spiritual" backing. L.

Echoes of the Fair.

Seated in our sanctum this bright morning, with patients more prospective than real, we have lapsed into a retrospective, contemplative and argumentative mood regarding the Fair, which has been assigned to Chicago. Mingled with the antagonistic feelings which we entertain toward the dudes of Gotham, is the bitter thought of the disloyalty of some of our brethren in St. Louis—Chicago's little sister, whom we hoped to win by love (or in spite of Love), and hold by annexation. Instead of taking an interest in the welfare of the glorious West and feeling appropriately proud of the pre-eminence of her big sister, St. Louis kicked like a Texas steer, first, to down Chicago, and second, to ruin the prospect of a Fair being held anywhere. How humiliating it is to think that the Giants of the West should be so swayed by jealousy and envy.

But avaunt, St. Louis, let us speak of thy proud patrician patron—Gotham. To the average denizen of New York—"citizen" by courtesy only—the impudence of a Western city presuming to bid for the Fair was simply paralyzing. No one but a Gothamite can see why New York should want the earth, yet never

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did a Gothamite appreciate how badly the old Dutch town needs the earth. If there is a town in America that needs earth more sadly, we should like to hear it present its claims. The very idea of the New Yorkers affecting to ignore the claims of Chicago, now the largest and most populous city on the American Continent, we cannot imagine. We are not a bit off in our mathematics either, for New York is not on the American Continent—she is on Manhattan Island. The location of New York explains much of her offensiveness, and particularly her Anglomania.

The Englishman affects to despise all knowledge of anything not bounded by the coast of Britain—he is insular in his location, insular in his knowledge, and more than insular in his habits and manners. He does take a passing and mercenary interest in a few colonies upon which the English Centipede hath implanted his envenomed foot—a claw which, like a deposit of goose excrement in the middle of a green field, blights every thing about it. Further than that, the stolid, sordid British intellect does not, aye, cannot soar.

There is but one successful counterfeit of the Briton, and that is the average Gothamite. His insufferable arrogance and insular intellect are something to be pitied; he seldom goes to the American continent, and when he does, the startling breadth and liberality of the American paralyze him, and he hastens to get back to his own "right little, tight little island," which, more's the pity, is not "in the middle of the sea." Anomalous her location, barnacle bound her intellect, and Anglo-maniacal her manners.

Is there any city in the world that is as presumptuous and arrogant as New York? And yet where is the city with so little real stamina, and so little beneficence? Behold her monuments! Like the bumps of generosity and magnanimity for which we seek in vain upon New York's cranium—the monuments are represented by eligible sites but no protuberances. In the case of the Fair, she had not even a site.

When the matter came up for final decision, methinks the mournful shade of Ulysses stood in the council-chamber of the elect, and cast his vote for Chicago. Behold the desperate extremity into which Gotham fell. Realizing the strength and enthusiasm of the peerless Garden City, New York called upon Washington and St. Louis for help (and probably upon Philadelphia). But the Giant of the Missippi Valley was undaunted, and promised to win in spite of the combine when—presto, change! Gotham appealed to the New York Legislature!

But in spite of all opposition Chicago won. And now brethren of the North, South, East and West pull off your coats and hustle to make things hum. Let us have the greatest exposition the world has ever seen. L.

The Evolution of the Local Venereal Diseases.

Dr. Bransford Lewis, in the *Weekly Medical Review*, sets up a man of straw and proceeds to demolish him. He publishes a criticism of Lydston's paper on the "Evolution of the Local Venereal Diseases," as read before the McDowell Medical Society. He apparently misunderstands the position taken by the author of the paper. Dr. Lewis infers that the claim was made by the essayist, that gonorrhœa and chancroid are identical, and that one produces the other. This was not the theory in any sense. It was claimed however, that by differentiation and adaptation to environment the one *origo mali* results in two apparently distinct and specific entities; gonorrhœa and chancroid are not claimed to be the same—as typically developed—any more than the Darwinian theory implies that man and monkey are the same. The parent stock is the same in both diseases, but the *typical results* vary. It is believed however, that if we could reproduce the precise conditions of their spontaneous development, gonorrhæa and chancroid would be interchangable to a certain degree. Results quite as remarkable are attained in the laboratories of Pasteur and his disciples. L.

A Plea for Conservatism in Gynæcology.

An excellent article with the above caption, from the pen of Dr. Malcolm McLean, appearad in the N. Y. *Medical Record* for Dec. 21, 1889. We trust that every thinking physician who has this article brought to his notice may give it the attention it deserves. It is high time that a halt were called in the mad haste of the average gynæcologist to roll up his record of laparotomies, etc. Dr. McLean comments very forcibly upon the large number of operations reported by a local operator in an obscure little town in West Virginia, as illustrative of the manner in which operative records are rolled up by men whose ambition is not to cure, but to spay their patients, with the double object in view of adding to their yearly list of laparotomies, and avoiding the issue of attempting a cure of their cases by conservative methods. When we wish the dog dead, we say, "he is mad." When the gynic case bids fair to be tedious and troublesome, we cry, "the tubes or ovaries are diseased, and must be removed!" We wonder if the specter of the female physician of the future, with a scalpel in one hand and a jar of testes in the other, ever rises before these gynæcological butchers. We are of the opinion that but one individual has ever emulated the modern laparotomist with any degree of success.

We refer to his hemorrhagic lordship, "Jack the Ripper." We believe that the police might get on the track of this individual very easily by placing some of the surgical clinics of the metropolis under surveillance. We would respectfully suggest that the enthusiastic laparatomist adopt Johannes Ripperinus as his patron saint.

The absurd lengths to which gynæcological enthusiasm will sometimes carry an otherwise intelligent man, was illustrated by the remarks of a certain prominent gentleman at a recent medical society meeting who claimed that all suppurative processes in the pelvic cavity are secondary to tubal disease. In his desire to remove the uterine appendages this gentleman ignored all the other channels of infection of the pelvic areolar and peritoneal structures.

It is safe to say that oöphorectomy should never be performed until all other therapeutic measures have had a fair and impartial trial. It would be interesting to know how many of our gynæcological surgeons follow this rule. It is possible, after all, that we are unnecessarily alarmed by the reports of the gynæcological enthusiasts—their voluminous reports are perhaps to be taken with a grain of salt. Candidly, we believe that there are more liars to the acre of soil among the medical profession than any other outside of that of law.

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The brilliant imagination of the surgeon—and for that matter of the physician—is often displayed very prominently in his reports of cases. The rapidity with which a single crudely analyzed case will develop into a hundred critically and exhaustively studied illustrations of the enormous reputation and practice of some operators is simply marvelous. We remember an illustration of this tendency that is quite apt: A certain gentleman of this city who was posing as a genito-urinary specialist, informed me during a street-car conversation that he was doing pretty well; "had performed thirteen urethrotomies in the last two weeks," etc., etc. He had then been in private practice about three months. Comment is unnecessary.

L.

A Case of Conservative Surgery of the Hand.

By Dr. John Hund, Chippewa Falls, Wis.

Wyeth in his Text-Book on Surgery has well said: "A primary amputation of any portion of the hand is rarely if ever, justifiable. If there is only a small stripe of tissue, the integrity of which is evident, an effort at the restoration of the nutrition and function of the part beyond should be attempted. If any doubt exists as to the result, the benefit of this should be given to the side of conservatism."

These principles, stigmatizing at once the genial surgeon, were my guide, when on May the 16th, 1889, M Naumann, a youth of 24 summers stood before and presented to me a bloody and confused mass of fingers irregularly piled around the middle finger, which although severely wounded, was the only three-jointer surviving a terrible disaster. The cruel mutilator of this valuable hand, upon which an aged pair of parents with a number of helpless children looked for support, was a saw at some of our large sawmills.

The course the saw took did at no point in its course find its way to any of the metocarpo digital joints. This was one fortunate feature of the case giving thus circumspected conservatism a chance at all. As the reader knows, the first digital forrows do not correspond with above named joints and having the cut at no point closer to the hand than the former, we must assume that there was about ⅓ of an inch space between the wound and the joint, even at the little finger. The character of the injury was however fatal to the parts attacked. The little and ring fingers were severed, the middle finger cut half through the bone and of the index finger there was a longitudo-multiple fractured stump left:

The object of my conservatism laid now in the preservation of all parts having any vital connections. To the index finger I directed first my attention, after the patient was well under the influence of chloroform. Under the free use of the irregator filled with warm water previously boiled, I proceeded to trim the bone at the terminal end, coapted the loose fragments, formed my antero-posterior flaps, sutured them and dressed them and bandaged the stump at once. Next the middle finger came into the rank; I found the tendon of the flexor Profundus Digitorum completely divided which I at once sutured. Now I prepared the other stumps or rather the rest of the wound as it were, laid in a drainage tube, extending from the ulnar border of the hand to the interspace between the index and middle fingers and closed the wound with a continuous suture. The patient did well for three days, when he complained of great pain and uneasiness. Dressings were changed and all was good excepting the member left intact, the middle finger.

To make this article as short as possible I will only say, that with my best efforts I could not save this finger. But although having failed once my faith in conservatism did not decrease. Consequently the idea of leaving a good stump was seriously thought of and as the remainder of this article will show, successfully carried out.

In order to reach this end, I was obliged to rely wholly upon the dorsal tissues to make my flaps and cover the stumps. The dorsal flap was therefore cut as high as the interdigital fold of the larger phalangeal articulation and the bone amputated at a point corresponding to the middle of the pretended flap. Now the integrity of the tissue receiving my flap was inspected, the latter pulled down and sutured to the palmar margin. Before this was completed I found it necessary however to divide my flap longitudinally, to approximate the full extent of the palmar margin better. Next I inserted longitudo-lateral sutures, trimmed off the folds at the terminal corners, reunited as far as possible the artificial slit and applied my dressing, which was in this case of great importance and the technique of which I will now try to describe. After the parts were well flushed with a sublimate solution, and thickly covered with boracic acid mixed with iodoform, I first laid a solid roller of bandage in the palm of the hand, pushing thus all soft parts toward the wound. Then I took a common bandage, fixing first the closed roller, and then applying it in the style of head bandage, i. e. commencing in the middle and overlapping at each turn the preceding strip, bringing as much pressure upon the stump as possible and thus relieving tension at the point of union. In spite of these efforts the stitches did not hold, since the margin of the palmar side objected to a happy union and constantly retrograded. For some time I feared to have made another failure and to be compelled to reamputate. But knowing the value of this little stump I scraped and disinfected the wound and dressed it daily, whereby I used pot. permanganate solution with carbolic acid salve and applied the bandage as described above. Perfect union seemed for a while doubtful, but I succeeded in rendering the wound aseptic and so I did as Wellington at Waterloo, I waited and watched my business. And: Finis corravet opus. After seven weeks from date of admission the patient left the hospital. Three weeks after he reported his hand being all right. I saw him in August. His hand was solidly healed and the ultimate result obtained. *He can form the hollow of the hand, has a good grip, can handle any tool as an ax, shovel, etc., and has a fair looking fist.*

Sawdust as a Dressing for Wounds.—*Cosmos* suggests the use of fine soft sawdust as a dressing for wounds, and as a vehicle for medicaments or antiseptics. It says that the dust, freed from splinters and sharp bits of wood by sifting, when used alone and dry, makes a clean and grateful dressing; that it readily takes up and holds the discharges without packing or adhering; and that it is easily rendered antiseptic by any of the methods used in preparing antiseptic cotton or wool. The *St. Louis Medical and Surgical Journal* suggests that our yellow pine sawdust, rich as it is in turpentine, would prove of itself a valuable antiseptic application.

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Abstracts.

A Strange Case of Typhoid Fever.

The St. Louis *Med. and Surg. Journal*, in November and December numbers, 1889, publishes in full a very interesting case, which was read before the Tri-State Medical Society of Tennessee, Alabama and Georgia at Chattanooga, October, 1889, by Dr. A. S. Wiltse, of Skiddy, Kas. The doctor gives an exhaustive and readable history of his own case, which was attended by some very strange symptoms.

On the 22d of June, 1889, a severe spell of nausea caused him to prescribe an emetic, supposing it merely a case of indigestion. The nausea, accompanied by slight fever, did not prevent attention to his professional duties for six or eight days, also spending a night on the sixth in attendance on three children of a professional brother who were down with Typhoid fever, of the ordinary type.

Finding himself too ill to attend to service, he called in Drs. Cooper and Raines, who found his temperature half a degree below normal, pulse slow and weak, bowels tympanic, tenderness and gurgling in right iliac.

Twenty years previously Dr. W. had failed to pass for life insurance, from the fact of his heart registering but sixty beats per minute, although *physically* no fault was found. Had, however, suspected heart trouble, but nothing abnormal about that organ could be detected by examination, in spite of the fact that the chest was larger on the left side than the right.

All agreeing as to the possibility of Typhoid fever; digitalis for cardiac weaknes, combined with a liquid diet, was prescribed, and, beyond weakness and extreme nervousness, was not confined to bed.

Typhoid fever with subnormal temperature and pulse (the latter being but forty beats per minute) was diagnosed.

Neuralgic pains appeared in the shoulders and neck, as well as a great amount of distress in the precordial region.

The next few days the pulse fell as low as 32, and the temperature to 3° below normal, and although the doctor was able to be up, still he suffered from extreme cold, the flesh having the cold, clammy feeling of a corpse.

On the 9th of August he was awakened by a terrible feeling, as though heart, breath and all the machinery of life had stopped, but this soon passed away, and did not re-occur that night—due, no doubt, to the administration of brandy and ammonia at intervals.

A period of unconsciousness lasting several days was followed by a strange numbness of the body, and at the same time the faculties were roused to the utmost. The flesh seemed to quiver and flutter in independent sections. As no time was to be lost the doctor prescribed his own treatment, which consisted in hot cloths applied constantly as hot as could be borne, and constant rubbing. As fast as one relay of friends were exhausted others would take their places. After this attack another period of unconsciousness lasting two days, followed.

The next Wednesday a similar attack came on accompanied by the same awakening of the faculties. Again the same mode of treatment was followed by relief, but the pulse and strength had also gone.

The usual signs of dissolution now set in—hiccough, numbness, inability to swallow, stiffness of the limbs—and the friends of Dr. W. showed in their faces the belief that he was dying, for the pulse was gone. After giving directions to his friends and bidding farewell to his family, he felt a drowsiness come over him, and straightening his stiffening legs, and crossing his hands over his breast sank into unconsciousness.

A period of four hours was passed without pulse or perceptible heart-beat, and so sure were the friends of the doctor's death that the church bell was tolled, but the physician could at times barely distinguish a faint, hardly perceptible gasp. Although the pulse was gone four hours, the state of seeming death lasted but half an hour.

Dr. W., while admitting that he is treading on dangerous ground, follows with a review of his experiences while in a supposed spiritual life separate from the body. He follows out every step, describing the method of separation of the soul from its clay tenement, and his journey forth into the world. To prove his "dream was not all a dream," he describes the different personages in the apartment, and their relative positions in regard to himself in the body, all of which was afterward shown to be true.

After a graphic description of his experiences as he saw them in the spirit, he once more sank into a state of unconsciousness from which he awoke to find himself in the body again to once more suffer. Severe vomiting set in which was controlled by creosote and hot water. This was followed by great distress for breath, which condition ceased suddenly in a few days, and the fanning which previously gave relief, only exaggerated the trouble. Injections of milk and brandy, digitalis and ammonia sustained the heart. Alcohol baths and nourishing food at short intervals and wine given every two hours, soon restored the strength. Absolute quiet was enjoined, but during the worst attacks of heart failure was kept awake. Hot flannels were used to restore temperature.

After many days the temperature began to creep up and finally settled to half a degree below normal. The pulse mounted to 50, then went to 76, and eight weeks afterward, the time of reading the paper before the society, it stood at 84 and was strong.

Aspergillus of the Anus. H. A. Hare, in *University Medical Magazine*.—Geo. H., was brought to Dr. H. onApril 11, 1889, having been ill for four days with a bad cough, high fever and some delirium at night.

Examination showed considerable consolidation of a portion of left lung, but no rales. The cough was exhausting and the fever was high. Difficulty in respiration was manifest, with some heart strain, so digitalis and brandy were ordered, with quinine suppositories by the rectum.

The child had been perfectly healthy previous to the attack of pneumonia. The father had died the year before of phthisis, the mother being well and strong.

On Dr. Hare's next visit the mother informed him that the anus was so sore, defecatation seemed impossible, On examination of the anal opening a peculiar downy growth, dark in color, resembling the ordinary mould on vegetables, extended from the closed sphincter for half an inch on either side. Removal

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of this, even in small spots, caused a great deal of pain and left a small bleeding spot behind it.

The following day the mother had carefully removed the growth, and stated that it was replaced by an eczematous patch, looking very much as it a scab had been torn off an ordinary sore, and that the growth reoccurred every few hours.

The next day the child was brought to the office, but as the part had been annointed with cold cream the growth had disappeared except at one edge, and the surface was covered with unhealthy looking pus. A weak carbolic acid solution wrought great improvement.

The sanitary surrounding of the patient's home was very bad. A pool of stagnant water behind the house received all the drainage and gave off a bad odor.

Book Reviews.

"Ophthalmology and Ophthalmoscopy for Practitioners and Students of Medicine." By H. Schmidt-Rimpler, Professor of Ophthalmology and Director of the Ophthalmological Clinic in Marburg. Translated from the Third German Revised Edition by D. B. St. John Roosa, M. D., L.L. D., Professor of Diseases of the Eye and Ear in the New York Post Graduate Medical School. 188 woodcuts and colored plates. Published by Wm. Wood & Co., New York.

This is the first volume of the library on "Medical Specialties," which the publishers have commenced publication. It is a handsome work in cloth of 570 pages, 183 wood cuts and three colored plates.

The examination and treatment of the eye, errors of refraction and accommodation, amblyopia and amaurosis, comprise the first part. The use of the ophthalmoscope, etc., is explained in part second. Part third treats of glaucoma, diseases of the lens, conjunctiva, cornea, sclera, iris and ciliary body, while part four treats of the diseases of the ocular muscles, of the orbit, of the eyelids and organ of lacrymation.

The author is well known and occupies an enviable reputation in this specialty, and to no better person could the task of translation be assigned than Dr. Roosa, whose name is authority on the subject this side of the Atlantic.

"Annual of the Universal Medical Sciences. A Report of the Progress of the General Sanitary Sciences Throughout the World." Edited by Charles E. Sajou, M. D., Lectures, etc., and seventy Associate Editors, etc., etc. Illustrated with Chromo Lithographs, Engravings and Maps. Vols. 1-5, 1889. F. A. Davis, publisher, Philadelphia, New York and London. Cloth, $8.00. Price, $3.00 per vol.

When one scans the names of such men as Dunglison, Manton, Minot, Agnew, Senn, Draper, Gihon, Loomis, Leidy, Smith, Wilson, Davis, Hun, Cohen, Seguin, etc., a faint conception can be had of the pains with which the author has endeavored to make the annual of 1889 a success.

The typographical arrangement is far better than the preceding volume, as it allows more material in the same space, and the system of weights and measures has been "Americanized" to fill the requirements of a vast majority of subscribers.

The author has endeavored to glean new and valuable material from the broad field of medical and surgical knowledge, and to scatter the good seed broadcast. The magnitude of the task cannot fail to be appreciated by the profession, and such seed implanted in soil ripe for knowledge will surely bring forth fruit abundantly.

Four thousand quotations more in 1889 than the previous year, also two new departments—"Examinations for Life Insurance" and "Railway Neurosis"—are included among the improvements enumerated for the past year, while an index has been added to each volume besides the one at the end of the year.

The handsome binding and general "get up" of the set is very pleasing to the eye, and no physician's library will be complete without the Annual.

"Photographic Illustrations of Skin Diseases; Second Series. Complete in Twelve Parts. An Atlas and Text Book Combined." By George Henry Fox, A. M., M. D. Hand-colored plates; nearly 100 cases from life. New York: E. B. Treat, No. 771 Broadway. Parts 5. 6, 7 and 8.

This work cannot fail to attract general interest from the dermatologist as well as the general practitioner, by reason of the unerring fidelity to nature insured by the photographs. Not a doubt "that things are not all they seem" can for a moment be entertained when the camera plays detective, for it is a well-known fact that skin troubles imperceptible to the human eye, have been unerringly portrayed even before the symptoms warned a patient. Parts five and six contain colored plates showing psoriasis nummulata, psoriasis annulata, psoriasis diffusa, psoriasis manum, psoriasis pedum, and lichen planus, pityriasis circinata, lichen ruber (2), herpes facialis zoster frontalis, zoster lumbo-femoralis. Parts seven and eight contain pemphigus, acne vulgaris (2), porrigo (impetigo contagino) (3), purpura (2), and cornea cutanea, keratosis follicularis, ichthyosis (2), elephantiasis (2), rosacea (3). The parts are printed on extra heavy paper, the illustrations on cardboard, and when bound will make a very durable and substantial work.

Miscellaneous.

Pneumonia.

℞. Ammoniæ muriatis.....3iij
Antim. et pot. tartrat.....gr. ij
Morphiæ sulphat.....gr. iij
Syrupi glycyrrhizæ.....ʒ iv
M. Sig.—A teaspoonful every two hours.
Dr. N. S. Davis.

℞. Hydrarg. chlor. mitis,
Ipecac. pulveris.....āā gr. vj
Opii pulveris.....gr. iij
Sacchar. alb.....gr. xxx
M. Ft. chart vj.
Sig.—One powder every four hours, alternately with the preceding prescription. At the same time cover the chest with emollient poultices.
Dr. N. S. Davis.

Diphtheria Conveyed by Cats.

Dr. Lawrence, of Halstead, Kansas, writes in the *Medical Age*, that last winter he was called to attend a little three-year-old girl suffering with diphtheria. Upon careful inquiry it was found that she had not been exposed to the disease, although there were some cases within a mile of her father's house. He incidentally learned that there was a sick cat in the house, which had been fondled by the little girl some days before. The cat died shortly after its playmate became sick and a second cat also became sick and was killed. Suspicions were aroused

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that the disease was conveyed by the cat, and inquiry revealed the fact that neighbor farmer had lost seventeen cats, and another one fifteen, with some sore-throat trouble. One of the farmers stated that he had examined the throats of some of the cats, and found them covered with a white membrane. The little girl died, and a few days later her little brother had a severe attack of the same disease. Cats are disposed to run from house to house at night, and one diseased cat may be the means of carrying diphtheria to half the cats in a neighborhood, they in turn carrying it to the children whom the parents are taking every means to protect from danger. It is well to keep an eye on the cats in times of diphtheria.

La Grippee Notes.

The monkeys and rhinoceros at the Zoo are down with the influenza.

It is now definitely settled that McGinty went down to get away from the grip.

Italians do not have the grip. They eat garlic and kind Providence spares them any lesser affliction.

Dr. O. P. Rex was said to be dead from the influenza, but the report proved false.—*Phila. Times and Register.*

Consumption and inflammation of the lungs have caused the greatest percentage of deaths in Philadelphia in 1889.

Drs. Tyson, Smith, Wood and Deaver, of the Uniniversity, were unable to fill their lecture hours on account of the grip.

To send away La Grippe in disgust the *Boston Globe* advises the chest to be covered with a hot onion poultice, and the stomach filled with boiled onions.

Our Meat and Drink.

So it has come to this, that men
Must dine no more on flesh again,
The chances being nine to ten—
Tuberculosis.
The thought's enough to there and then
Cause cyanosis.

I wonder what *is* safe to eat?
Swine seems as bad as butcher's meat.
For porcine flesh they say's the seat
Of trichonosis.
And even tea, that household treat,
Brings on neurosis.

They all tabooed—well, let them go!
What though it brings my system low,
And fond friends cry in tones of woe,
He's got chlorosis?"
Impoverished blood is less a foe
Than scrofulosis.

Farewell, my modest evening tea!
Microbic flesh depart from me!
Seductive beer it may not be!
Who wants cirrhosis?
Even sugar's not suspicion free,
There's teeth necrosis.

No more the cherished hope I'll hug
That all this cry is mere humbug;
Henceforth I'll feed on "flesh that's dug."
If plants have "oses,"
I'll swing some antiseptic drug
In treble doses.

—*Hospital Gazette* (London.)

Society News.

Illinois State Medical Society—Change of Date of Meeting —Important Notice.

The annual meeting for 1890 will be held in Chicago the FIRST Tuesday of May, instead of the *third* Tuesday. This change is made on account of the meeting of the American Medical Association in Nashville on the latter date.

JOHN WRIGHT, President.
J. P. MATHEWS, Vice-President.
D. W. GRAHAM, Perm. Secretary.
C. W. EARLE, Ch'n Com. of Arr.

Items.

With our present system of quarantine, we in Louisiana snap our fingers at yellow fever; and with our admirable method of storing our drinking water, we need not fear the disease which scourges Kentucky and some other States. Our moisture-laden soil virtually prohibits us from having sewers; we have open drains. No house-pipes with defective valves lead from a filthy sewer to our bed-rooms to poison the atmosphere we breathe. We have our own peculiar sorrows; we do not wish to borrow others from our neighbors. We mourn with them when they suffer; but we do hope they will spend more time in improving their own localities, and less in lecturing New Orleans upon the filthy condition of its streets, and similar trifles. For a long time our much-abused city was looked upon as fit only to die in; increasing knowledge, however, shows that this is as good a city, for its size, to live in, as any in the Union, provided the plainest laws of hygiene are observed.—*New Orleans Medical Journal.*

Frank Smith, of Council Bluffs, Iowa, aged 38, dropped dead September 4. A post-mortem was held, and from the abnormal arrangement of the vital organs, the physicians expressed surprise that he had lived so long. The heart was on the right side, the apex lying against the second rib. A large coagula, amounting to about two quarts of blood, surrounded the heart. The liver was on the left side of the abdomen, and the stomach on the right. The lungs were only one-third the normal size and pressed upward.

In ten years, 1877 to 1887, inclusive, the medical colleges of this country turned out thirty-six thousand and ninety-seven doctors. Of this number it is estimated that a quarter, or nine thousand, are no good. Can any one estimate the amount of damage that nearly nine thousand improperly educated doctors can do in ten years? And yet the population of the country keeps on increasing and the average duration of life lengthening. The worst college of to-day is better than the best of even twenty-five years ago.

Dogs and cats are subject to typhoid fever; monkeys are prone to tubercular disease; cats easily contract and convey diphtheria; and many animals are afflicted with rheumatism, especially elephants.—*Ex.*

A Swiss girl of twenty-two recently voided ninety tape worms at a single sitting. Two six-gramme doses of extract of male fern did the business.—*N. Y. Med. Times.*

The Municipal Council of Rome has decided to establish a training school for nurses, under the direction of Professor Durante, the well-known surgeon.

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Funny Paragraphs.

"To be Taken as Read."

A certain physician who called his wife "Mrs.,"
Was by her, from custom, called "Dr."
If pleased he would meet her with conjugal Krs.,
But if cross, in the cupboard he Lr.

Thereupon, by advice of her brother, the "Col.,"
She altered the Dr. to Mr.,
Till at length (so it's told in a society *Jol.*)
Once more in good humor he Kr.

Government clerk (to friend).—"I'm in a frightful hole. I went to see two doctors yesterday, and got a medical certificate from each. One was a certificate of health for a life-insurance company, and the other was a certificate of illness to send to the chief with my petition for a week's leave of absence." Friend—"I've done that myself. What's the matter?" G. C.—"Matter! Great Scott! I mixed the certificates in mailing them. The insurance company has my certificate of ill health, and the chief has my certificate of good health."—*Boston Beacon.*

He Had 'Em.—Lady visitor in hospital—Poor man! How he groans! What is the matter with him, nurse?"

"He's got the delirium tremens."

Lady (to man)—"My friend, you should give up strong drink. Don't you know that you would be happier and have more pleasure without it?"

Patient—"Don't know about that, mam! I have been seein' circuses an' menageries, an' snakes, an' blue monkeys with pink tails for two days, an' I didn't have to pay to get in, nuther."—*Drake's Magazine.*

Old Mrs. Smiley: Next time I get took down sick, my dear, I wish ye wouldn't have that these young sprig of a doctor come to attend me. I don't go much on young doctors, no how. Mr. Smiley: Well, Maria, who would you like to have me call? Mrs. Smiley: I've kinder took a notion to the doctor around the corner, I dunno much about him; but I see he's got a sign out "Veterinary Surgeon," and I think he must be a man of experience.—*Cincinnati Lancet.*

Aid to the Drowning.—A contemporary gives these pithy directions for giving first aid to the drowning: 1. Go through his pockets. 2. If there are any trees round, hang the subject by the legs to let the water run out. If you are in a city use a lamp-post. 3. If the subject be a small man, pummel him with your fists to start the circulation. If he be a large man, give him a shock with a galvanic battery. 4. Go through his pockets again.

Sympathized with Nature.—Granger.—"Doc, thar mus' be suthin' left whar ye yulled thet tooth for me, last week. It's ached ever since." Dentist (examining the mouth).—"Nothing there, sir, but a vacuum." "How big?" "Why, about the size of a tooth, of course." "Wal' yank 'er out, Doc. I knowed suthin' was wrong. I've heerd that nacher obhors a vakeyum, and dinged if I blame 'er, 'f she ever got one stuck inter her jaw."

"Why, Marks, you look dreadfully peaked!"

"I feel so."

"Up all night?"

"Yes."

"With the boys' eh? You sly rascal!"

"Exactly—with two of them; had twins yesterday; both boys."—*Chicago Ledger.*

Young America and the Faith Doctor.—A Scranton mother, whose son had toothache, took him to a faith healer. "Look me in the eyes," said the doctor, fixing a fascinating gaze on the weeping youth. "Now your toothache has entirely disappeared. You haven't a bit of toothache about you." "You lie! I have," yelled the boy with a fresh howl. The mother then took him to a dentist.—*Pittsburg Dispatch.*

A visitor surprised a distinguished professor, who was saying to his baby, "On-ny, no-ny, e mussy tick his little footsy tootsies." Just then he caught sight of the visitor, blushed, and muttered, "No, no, you must not expose your pedal extremities by extending them beyond the protecting covering of the blanket, or you will lay yourself open to attacks of catarrhal affection."

Anxious mother.—"Yes, doctor, my daughter is really ill." Dr. Cardiac.—"Heart affection, if I have correctly diagnosed the case." Mother (in a horrified tone—"My worst suspicions are confirmed, for she has confessed to me that she actually loves her husband. Can anything be done, doctor?" Dr. C.—"I have hope, but you must admit it's a rare and complicated case—for Chicago."—*To-Day.*

Layman—"I understand that you have devoted your life to the study of disease germs?"

Great scientist (proudly)—"I have."

Layman—"Have you found a remedy for any of them?"

Great scientist—"Well, no; but I have succeeded in finding good long names for them all.—*New York Weekly.*

Ambiguous.—"Doctor, how do you find patient to-day?"

"Oh, Mr. Jones, he is no worse."

"Do you anticipate a fatal result?"

"Fatal result! Well, medicine never failed to do its work."

Not a Strong Recommendation.—"Why, I tell you sir, it's a splendid remedy. Children cry for it."

"That may be. It proves nothing. My boy cried for a wooly horse with red legs yesterday, and I am quite certain that a wooly horse with red legs wouldn't cure him of the colic."—*Harper's Bazar.*

The Russian government accuses female physicians of being addicted not merely to revolutionary opinions but also to "sentiments and manners unworthy of their sex." No woman is allowed to practice publicly before forty years of age.

"What is the difference between the allopaths and the homeopaths?" asked Mrs. Cumso of her husband. "Oh," he replied, "the allopaths think the homeopaths are not ortho-docs."—*Life.*

An applicant for naturalization was asked: "Were you ever intoxicated?" He answered very truthfully: "Nein, but I was waccinated last week." He is now a citizen.—*Buffalo Express.*

She—It may be I have yellow fever, Henry; I think we had better send for Dr. Pillsbury. He—Why, my love I wouldn't send for him. You know he is color-blind.—*Life.*

If you feel mad when some rude person runs into you in the street, how must you feel when a locomotor ataxia?—*N. Y. Commercial Advertiser.*

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Western Medical Reporter.
A Monthly Epitome of Medical Progress.

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ORIGINAL ARTICLES.

Brow Presentation—Its Treatment as Illustrated by a few Cases in Practice.

Read before the Military Tract Medical Association, at Galesburg, Ill., Oct. 4 and 5, 1889.

By G. E. LUSTER, M. D., Larchland, Ill.

Gentlemen of the Military Tract: It would seem like presumption upon the part of the most learned, and experienced accoucheur, to attempt to add anything new to the subject of Fœtel presentation and position, at the present time. As the subject was so completely mastered by the immortal Nægele.

If it would be presumption on the part of the learned Accoucheur to attempt to add something new to the science and mechanism of obstetrics, it would be simply bigotry upon my part to attempt it. My object then in calling the attention of the society to this subject is not to advance new ideas, but to invite the attention of the younger obstetricians to the importance of the subject, and perhaps call out a discussion from the older members of this organization, so that we may all imbibe the fruits of their ripe experience, and be better prepared to meet the trials of the lying-in chamber. As you are aware a large number of the classic authors on obstetrics make no special mention of brow presentation.

Bedford, of New York, fails to mention it in his work. Leishman simply refers to it as the most dangerous position possible, without giving specific directions for its proper management.

All authors which I have consulted on this subject, classify with great precision occipital, facial, breech, and transverse presentation and pass brow presentation with slight mention.

To illustrate what constitutes brow presentation, we speak of treating fractnre of the forearm in the position, half way between pronation and supination. Here we have a presentation of the fœtel cranium midway between flexion and extension.

When we consider the diameters involved in this presentation, we find it absolutely incompatible with safe delivery in a normal pelvis and fully-formed child; and are at a loss to understand why professors of obstetrics treat the subject with such indifference. Incompatible with safe delivery from the known fact that a larger body cannot pass through one of smaller dimensions. And here we have the occipitomental or long diameter of the head which is 5½ inches in relation to or antagonized by the conjugate of the brim, which is 4½ inches, or the transverse of the brim, which is 5¼ inches, or the oblique which is 5 inches, or the conjugate of the cavity which is 5¼ inches, or the transverse of the cavity which is 5 inches, or the oblique of the cavity which is 5¼ inches.

According to the position of the brow, whether anterior, transverse or oblique, these diameters must be encountered in the passage of the head through the pelvis, to say nothing of the encroachment on these diameters by the psoas and iliacus muscle, and other soft parts with their investments, which reduces the diameter of the brim ½ inch, and those of the cavity and outlet ⅛ inch. These, then, are the diameters involved, where the brow presents, and its axis comes into relation with the pelvic axis. According to strictly mechanical deductions, one of three things must of necessity occur. The uterine contractions either changes the position and brings down the occipital or mental end of the fœtal ellipse, or, what did actually occur in my experience, after long and patient waiting with vigorous contractions in a patient with ample pelvis, no progress. The resources of nature becoming exhausted, artificial delivery became necessary.

Case 1. Mrs. S., age 37 years, multiparæ, mother of five children, large pelvis. Had frequently delivered herself of large and fully developed children, unaided, and before her medical attendant could reach her bedside; was called in council with her physician, found she had been in labor twenty-four hours with vigorous and almost continuous contractions, but no progress; made an examination; found second position of brow, the brow occupying the center of the pelvic axis, and in relation with the left oblique diameter. After waiting patiently until the patient gave unmistakable evidence of exhaustion we proceeded to deliver by podalic version, and had the satisfaction of relieving the mother, but lost the child. One year from that time I was called to attend Mrs. S., again in confinement; found the left occipito and anterior presentation of the head. Had scarce time to make the examination when she was delivered of a fine boy babe. Eighteen months from the date of this confinement I was called to attend her again. Upon making an examination I was confronted with another brow presentation, the exact counterpart of the first. Having lost the child in the previous labor, and thinking perhaps we may have acted hastily, I resolved to wait and see what nature would do for the patient. After waiting for twenty hours, all of which time the patient had strong contractions with no progress that I could determine; having no guide but the general principles of obstetrics; realizing that either the occipital or mental end of the fœtal pole must come in relation with the pelvic axis, I proceeded to podalic version, and had the satisfaction of relieving both mother and child of their critical position.

Case 3. Mrs. K—, age 27. Multiparæ. Her previous confinements had been easy and rapid. I made an examination, and found brow presenting to the left, and in relation with right oblique diameter the first position of the brow. Waited until signs of exhaustion and the importunities of the patient and alarm of friends admonished me that something must be done. Again calling to my aid that cardinal principle of obstetrics that either the occipital or mental end of the fœtal ellipse must come into relation with the pelvic axis in order for safe delivery to take place.

Introduced my hand into the vagina, placing two fingers on one side and the thumb on the other, pushed up the brow, grasped the chin and brought it down, thereby converting an anterior position of the brow into a mento-posterior of the face by keeping my finger in the mouth of the child, rotated the chin forward to the pubic arch, and had the pleasure of speedily delivering a woman who had been in un-

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told agony for hours while I was an idle spectator. This principle should be indelibly impressed in the minds of young obstetricians, and if you remember and apply it in your obstetric manipulations in these cases of dystocia, you will find it to be a boon to the mother who places her life in your care; and a great satisfaction to yourselves. Forget it, or neglect to call to your aid that either the occipital or mental end of the fœtal head must come down before delivery takes place in this hour of peril, and you will be like the mariner at sea in a storm without a compass.

Case 4. Mrs. T—, age 22. Primipara. Second position of the brow. After waiting a reasonable time with no progress, patient becoming exhausted, introduced my hand, pushed up the brow, brought down the chin, removed my hand, expecting speedy delivery, as the pelvis was roomy. After waiting some time, made another examination, found the chin had receded, and the brow was in its original position, reintroduced my hand, pushed up the brow, brought down the chin. After waiting one hour examined as to the cause of delay. Found the brow again presenting, the chin having receded. The patient's condition becoming alarming, pushed up the brow and face entirely out of the pelvis, grasped the occipit converting an anterior of the brow into an occipito anterior, speedily relieving the patient and delivering her of a live female child. That these were all cases of brow and not facial presentations I think I know, as I have had a number of facial presentations to deal with. In regard to the differentation between brow and face presentation, my experience would seem to indicate the impossibility of reaching the chin in brow presentations without introducing the entire hand into the vagina, and the long protracted character of the labor with no progress in a pelvis of normal proportions, especially in cases where the previous delivery had been rapid.

Anæsthetics In Labor.

Read before the Military Tract Medical Association, at Galesburg, Ill., Oct. 4 and 5, 1889.

By F. P. Hulen, M. D., Burnside, Ill.

Member of Military Tract Medical Association, Member of Hancock Co., Medical Society.

We have selected this subject, not that we have anything especially new to offer, but because it fails to share its due consideration in society work and further, that it may stimulate such impartation of truth that the writer may reap bountifully thereby.

There is no part of the duties of the medical practitioner that appeals more to his sympathy than his services to women during the process of parturition. Surgery brings before our eyes horrible forms of mutilation or disease which have appealed to the skill and inventive genius of that branch of the profession. Medical men fight insidious disease, oculists perform wondrous acts of skill, but the obstetrician comes to the bedside at an hour when woman, in obedience to her God-ordained duty, is called upon to suffer pangs which have no parallel in human suffering. To you she appeals, and upon you a loving husband and sympathizing friends depend for safe delivery from her troubles, and if there is any time that the physician should forget self and all other interests but the best management of the patient for her safety and future welfare, it is then. It has been my lot to deliver a goodly number of women and I cannot yet look upon the progress of the simplest, most natural labor, without wondering how any woman can go through with it and live. Yet we are forced to admit that a great many women would go through it safely and recover thoroughly without the assistance of a physician. I cannot better introduce my subject than to refer to its history in brief: To Simpson, of Edinburgh, belongs the honor of having administered the first anæsthetic for the purpose of facilitating delivery, which dates back to January 19, 1847. He was thus led to its use from having seen an epileptic pass through the ordeal of labor while seized with an epileptic convulsion, without any knowledge of having given birth. Again, in a case while in a drunken fit, with similar results. He therefore cherished the hope that the application of some remedy might be made that would enable suffering woman to pass through labor without pain and, at the same time, with safety.

Ether, at that date, was the famous anæsthetic and the one he was encouraged to use. After a short experience with it, he presented the subject to the Obstetrical Society of Edinburgh in the following terms:

(I refer to the following terms that we may fully appreciate the more modern application of anæsthetics in parturition.)

1. That the inhalation of ether produced for the patient a more or less perfect immunity from conscious pain and suffering attendant upon labor. 2. That it did not, however, diminish the strength or regularity of the contractions of the uterus. 3. That, on the other hand, it, apparently, sometimes increased them in severity and frequency. 4. That the contractions of the uterus after delivery seemed perfect, when it was given. 5. That the reflex assistant contractions of the abdominal muscles, etc., were more easily called into action by artificial irritation. 6. That its employment might not only save the mother from more pain in the last stage of labor, but might, in some degree, save her from the occurrence and sequences of the nervous shock attendant upon delivery, and reduce the danger and fatality of childbed.

7. Its exhibition did not seem to be injurious to the child. You will observe that Simpson did not stop short of "Surgical Anæsthesia." The step from the surgical to the obstetrical application was but a short one; yet it was over a chasm of unknown depth. Trial alone could show whether uterine contractions would continue and labor go on during the unconscious state of ether. Simpson made the trial, not only with boldness, but with that infinite tact which borders on genius. By the 23d of February, 1847, Dubois had had four cases of forceps delivery, under ether, and presented the subject to the French Academy of Medicine in the following language:

1. The inhalation of ether does annul the pain of obstetric operations.

2. It alleviates the physiological pain of labor.

3. It destroys neither uterine contractions nor of the abdominal muscles.

4. It diminishes the natural resistance of the perineum.

5. It does not appear to act unfavorably on the health or life of either mother or child.

Hence, its new application rapidly spread throughout the world. A new period dawns, and Simpson was again the path-breaker.

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From the first time he saw ether administered he was satisfied that other agents would be found capable of entering the system by the pulmonary circulation and produce like effects. He entered upon a line of experiments and personal trial with various articles. Chloroform, which had already been known for fifteen years, but scarcely other than a chemical curiosity, was suggested to him by Waldie, a chemist, and a graphic account of the first inhalation of this new agent by him and his friends was recorded. Immediately impressed that he had found an anæsthetic superior to ether, especially for abstetric practice, no time was lost till a careful trial of the new agent was made. The first case was that of a second confinement, on November 8, 1847, the previous one having been a craniotomy. After pains had lasted three and one-half hour, and the os nearly dilated, the inhalation of chloroform was begun. The child was delivered in about twenty-five minutes, the mother being entirely unconscious and remaining so until after the delivery of the placenta.

During the period following this, this new anæsthetic was gaining quite a reputation in the line of surgery, and would have entirely superseded ether, especially in obstetrics, had it not been given a few surgical cases, which resulted in death. This shocked the profession and exerted a powerful influence in preventing a resort to it, or in causing a return to ether. Hence, from that time on, both were used, and even down to the present day both have warm advocates. Since June 10, 1847, this country has shared with the world her experience in the use of anæsthetics in parturition. In the history of this all important subject we find that anæsthetics were used especially in instrumental or preternatural deliveries; but by and by we find that the subject became, and is to-day, divisible into two different classes as to the purpose of the anæsthesia.

1. In cases where obstetrical operations, or painful manipulations are indicated.
2. In natural labor, to mitigate or annul pain.

As to the first division of this subject, anæsthesia differs in no essential from that of general surgery, only the more important in obstetrics, there being two lives at stake, while in surgery, usually, but one.

The second division, or class, is the one which is the more particularly dealt with in this paper, however reference will be made to the former, and hence we say the main object in the use of anæsthetics in labor is to alleviate, or annul suffering, and generally without the abolition of consciousness.

The sensations of the patient are to be kept in abeyance while her relations with the external world remain but little disturbed, As this result is attained at a certain portion of a process, a further stage of which is the condition of deep narcrosis, known as "Surgical anæsthesia." (It is unfortunate that we have no better term to designate it than the one used for the partial effect, "Anæsthesia.")

Simpson recognized this fault in our language, and suggested the term "Nodynia;" the French, "Demi-anæsthesia." "Analgesia" we think a better term, and one used by some of our American writers, meaning the alleviation of suffering without suspension of consciousness.

DIFFERENT ANÆSTHETICS.

Besides Ether and Chloriform there are Bromide of Ethyl, Cocaine, Chloral Hydrate, etc. Without discussing the merits and physiological effects of each, our paper will deal with chloroform as the anæsthetic *par excellence* in labor, because:

1. It fulfills the indications as fully as any other one.
2. It is more convenient, and requires less precautions, especially by lamp-light.
3. Because it has more advocates than any other.

We next inquire as to its dangers in parturition:

The most searching inquiry upon this point is imperative. Time has strengthened, in surgical experience, the strongest objection ever made to obstetric anæsthesia.

It was urged by Meigs that there was not, and could not be, any assurance that the order in which the different portions of the nervous system succumb was reliable, and that irregularity in this respect could entail sudden death. The highest authorities have recognized the irregularities of action of chloroform when given in full doses.

Such a statement of this fact might seem to carry with it an abandonment of this agent, and would do so were there not, as a counterpoise, an experience which can justly be termed immense. The records of that experience has been carefully searched, and every case as closely scrutinized as possible. There have been a good many cases reported in which death was imputed to chloroform, but with manifest injustice. Justice and Science, alike demand that this great remedy shall not bear the odium of causing death, unless it has been properly used, and under circumstances in which it, alone, could have been the cause of death. It is impossible for us to present here the details of all these cases; and which would consume valuable time, as well, but suffice it to say, that in too many of such cases it was administered by incompetent persons and, even in some cases by the patient, herself, and again, too many of them rest upon hearsay evidence, and others handed down to us by parties who have taken their stand against this valuable remedy, and through prejudice, have reported fatal cases from it, when, no doubt, due to improper inhalation.

There have been cases reported, in which complications were present sufficient of themselves, to cause death; such as puerpural convulsions, placenta prævia, and others. Until recently, it could be truthfully said that not a single death had ever occurred under chloroform, in labor, when it was administered by a competent person. Dr. W. K. Harrison, of Chicago, in 1881, reports the following case: Patient primipara, age 36, and good health; weight 145 lbs.; urinary secretions normal; had been in labor eight hours; patient insisted that she should have chloroform, and it was given, intermittently, a few drops each time, and at the end of ten minutes, began to complain of thoracic oppression and dyspnœa, and desired to be raised up, whereupon, face became livid, and was at once placed in the horizontal position, but had already become unconscious, and after frothing at the mouth, with few sighing respirations, ceased breathing. Unfortunately, there was no autopsy. Symptoms indicate pulmonary embolism.

That there have not been more deaths when chloroform has been used, is most extraordinary, when it is considered that sudden death in labor is not so very rare an event.

It is an appalling occurrence which many, perhaps most, obstetricians of much experience have wit-

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nessed at least once in their lives, and the cases of which rest yet under a veil of profound mystery.

Hirst, of Philadelphia, reports two such cases, one just after labor began, and the other puerperal; in both of which, had chloroform been used, it would have borne the blame of the catastrophe.

Looking at the number of such cases which have been reported, and at the result of the search for deaths under chloroform, it again seems that a satisfactory explanation can only be found by assuming the existence of some special safeguard attaching to the parturient woman. The occurrence of dangerous symptoms during the inhalation of chloroform in labor is of equal import with cases of death, and deserves as careful study. The same careful and extended search has been made as in regard to deaths and the number of cases found recorded is surprisingly small. McClintock reports one, in which dangerous symptoms supervened during inhalation for rigidity of the os. Elliot, one in which respiration suddenly ceased after inhalation of small doses had been continued for some time. Lusk reports a case, labor in second stage, inhalation of small doses during two and a half hours, when the patient suddenly ceased to breathe, the pulse imperceptible. In all these cases the bad symptoms supervened immediately upon taking a few deep inspirations and in two of them a fresh supply of the anæsthetic had just been poured on the compress. In Bomet's case, a forceps delivery, the administration of chloroform was committed to the husband, who became too much interested in the operation. In one of Lusk's cases, there was gross maladministration; the administrator crowded a paper funnel, which contained a towel wet with chloroform over the respiratory passages.

There must be contrasted with the number of accidents reported, the vast amount of experience from which they have been gathered. We conclude from the foregoing remarks, that one great danger lies within the rapidity of the administration, and the irregularity or nonuniformity of the administration. It should, therefore, be conducted with the utmost care, and always by an experienced person, especially where surgical anæsthesia is called for, unless an emergency presents itself, where delay would imperil the life and safety of the patient, more than the risk of the administration of the agent by some untrained person, and even then, only under our observation. The safety of anæsthetics in labor are not to be shown by argument, but rather by facts, and if chloroform be rejected in this line of work because of its minimum amount of risks contrasted with its demands, then, to be consistent, every powerful agent of Materia Medica should be eliminated from our list of remedies because, in them, too, are there dangers and, even the comforts and appliances of life, as vehicles and railroads cars should be abandoned.

What would be more illogical than to argue that because of the disaster of the Chattsworth wreck, *ergo*, we should forever abandon that mode of travel. There are many circumstances attending parturition which tend to ward off, or prevent, danger from the administration of chloroform. It has been shown that two men die to every one woman from surgical anæsthesia, and parturition, itself, recognized as a safeguard, affords immunity to danger. The recumbent position of the patient is a factor of safety. Suffering woman accepts relief more than willingly; she has no dread of its means. A far stronger element of safety is the slow and gradual administration during labor. The danger of a strong impression of chloroform, and of the rapid inhalation of air highly charged with its vapors, was early pointed out; the warning has been often repeated since, yet many deaths from this cause have occurred, and patients have been exposed to danger in this way, as has been seen, even in obstetrics. But so few have been the accidents in obstetrical practice compared with the vast number of patients submitted to anæsthesia, both in natural and operative labor, these points alone have not seemed satisfactory, and attempts have been made to find in some condition of the parturient woman a special source of safety.

Some authors tell us that the efforts attending labor is a safeguard.

Another danger from chloroform is in any case of anemia of the brain; whether that following severe hemorrhages, placenta prævia, or from other sources. After prolonged and careful search and study of this subject of accidents and dangers from chloroform in labor, we feel justified in offering the following statements:

1. But one well authenticated case of death is on record where the administration was by a cautious medical man, and in that case no autopsy was held.

2. Dangerous symptoms have occurred but very few times, and then almost always from violation of the rules of proper administration.

3. The danger when chloroform is used, only to the extent of mitigation or alleviation of the suffering attending child-birth, is practically nil; when carried to the surgical degree for obstetric operations the danger is, even then, far below what it is in general surgery.

4. No proof can be furnished that the parturient woman enjoys a special immunity from the dangers of anæsthetics, although facts seem to indicate that such immunity does actually exist; but her surest and best safeguard lies in the care and watchfulness of the administrator.

We will notice briefly, the effect of chloroform upon the Parturient Processes.

At the head of these processes stand uterine contractions; the prime importance of non-interference of anæsthetics with these has already been mentioned. I have found when chloroform was given only to mitigate or annul pain, and where pains were irregular, and feeble, to promote and sustain regularity, and thereby assist the progress of labor. There are a few cases in which it seemed to produce no effect whatever, but when carried to profound surgical anæsthesia, it lessens uterine contractions.

A careful review of all the testimony, together with an estimate of its value, based upon the amount of experience and character of those who rendered it, lead to the following conclusions:

1. The action of chloroform upon uterine contractions may vary according to the stage of labor and the peculiarities of the patient, and especially with the degree to which the anæsthetic is carried.

2. A temporary cessation of uterine action is not at all infrequent; occasionally, however, chloroform permanently abolishes pains, especially where pushed to the surgical degree.

3. Obstetric anæsthesia, or analgesia, has no effect, as a general rule, upon uterine contractions.

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4. In surgical anæsthesia, the energy and frequency, and duration of the contractions may be, and generally are, lessened, and in deep narcosis, the action is most always in abeyance.

5. Upon withdrawal of the anæsthetic, and with the disappearance of the anæsthetic effect, the uterus promptly resumes its functions.

6. The tendency of this agent is, in some cases, toward causing a diminution of uterine action, and this tendency should be kept constantly in mind.

EFFECT UPON THE ABDOMINAL MUSCLES.

As labor enters upon the expulsive stage, these muscles take part in the parturient process, called into action by an influence emanating from the pelvis and reflected from the upper part of the spinal cord, they give energetic assistance. The influence of anæsthetics upon this auxiliary force has been doubted, affirmed and denied; still, by far the greater amount of testimony favors the non interference of anæsthetics with these accessories, while the statement, in general terms, may be the same for these as for the uterine contractions.

EFFECT UPON THE OS AND CERVIX.

In labor there should be harmony of action between the different portions of the uterus; dilatation of the cervix should occur in due time and in preparation for expulsive effort of the body and fundus. This harmony is often lacking, and the process is delayed by unusual resistance of the os; this has been attributed to one of several different pathological processes, but whatever it may be, the suffering of this stage of labor is often so severe as urgently to demand relief. The action of chloroform seems to adapt it for this condition of things, but the writer most usually prefers chloral hydrate during this stage, there being no other special indication.

Suffice it to say, however, that good authority recommend chloroform for relaxing a rigid os.

EFFECT OF CHLOROFORM UPON THE PERINEUM.

The influence of this agent in promoting relaxation of the muscles of the perineum has been emphasized from the earliest acquaintance with this agent as an anæsthetic in labor. It is said that the earlier effect of chloroform manifests itself upon peripheral portions, especially upon the terminal portion of the cord, and thus the nerve supply of the perineum early submit to it. Without considering too much of the biological physics, and looking to the most numerous and best authorities, giving, moreover, the lessons of experience, it may be boldly stated that no one thing is more efficient as a preventative of rupture of the perineum than the administration of chloroform.

Does it affect the duration of labor?

Snow recognized and expressed the fact that chloroform does not affect the duration of labor in the whole number of cases, but in individual labors they are either accelerated or retarded by it.

Does chloroform promote hemorrhage after delivery? An inquiry as to the influence of this agent upon the contraction and retraction of the uterus immediately after delivery is closely allied to one as to its effect during labor. That authorities differ upon this point is not surprising when the difficulties are considered which attend a clinical study of this subject. We can hardly decide that it does promote hemorrhage, as there are as many without as where it has been given.

My experience has long since pointed to the fact that where surgical anæsthesia is called for, in labor, the condition calling for surgical interference, or the manipulations indicated, are, of themselves, quite sufficient to provoke hemorrhage, postpartem, and in all such cases should it be suspected and most carefully watched for. But given only to the extent of analgesia, and that during the expulsive stage, I have never witnessed ill effects, and in the latter class of cases I have had less difficulty in delivering the secundines. Whether the chloroform had any great influence in that direction or not I cannot say.

Fordyce Barker has given this division of our subject special consideration, and expresses himself as follows:

"I am strongly convinced that chloroform does not promote postpartum hemorrhage."

He administered it in several thousand cases, and the only hemorrhages occurred when no anæsthetic was given.

MODE OF ADMINISTRATION.

It has been well said that "a good remedy will fail of its effects if not properly administered." So it is with anæsthetics. Not only in obstetrics, but in surgery; while in obstetrics, care and skill are essential to the successful use of them, and out of all proportion to the attention bestowed upon the subject in our text-books.

The rapidity of the action of chloroform is an important fact not to be lost sight of. Entering the system through the pulmonary circulation, it passes directly, with the blood-current, to the nervous centers. In like manner, and with the same rapidity, the system clears itself, and cessation of the administration insures speedy cessation of the effect.

The fact enforces attention to the importance of intermittance of inhalation. The residual air of the lungs should be kept in mind by the administrator, as there is danger of cumulative effects. The quantity of vapor of chloroform in air which it is safe to administer is reckoned at five per cent, and below; and larger amounts dangerous, as recommended by Snow. While it is not possible for the practitioner to measure the percentages of vapor, and while there is a "clinical dose," the measure of which is the effect, the danger of too heavily charged air cannot be overemphasized.

The record of chloroform accidents shows many cases plainly due to too sudden inspiration of air heavily charged with the vapor. The essential requirements of any apparatus or plan for the safe administration of chloroform are, that it shall insure a thorough admixture of air with the vapor; which will, also, give the power of graduating the process and limiting the dose. Nature has provided an instrument which fully meets these demands. It is a hollow cup-shaped sponge, the cavity of which will admit the first and thus cover, easily, the mouth and nose. This, dipped into warm water, and squeezed out, is unequaled in convenience and efficacy. It is soft and pliable; is porous and a supply of air cannot be shut off. If pressed together after chloroform has been sprinkled upon it, every little interstice, as it gives passage to air, yields to that air its modicum of vapor.

A perfume bottle with a screw-cap, or, bottle with perforated cork will answer every purpose for containers, and the administrator has perfect command over

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the rate of administration; while the mode almost universally recommended of pouring it on a folded handkerchief is faulty and dangerous in the extreme. It is with the utmost confidence that my convictions are expressed, that many physicians have given up the use of chloroform in obstetrics from neglect of attention to these minute points. It is said, that in every department of medicine, there are many "great little things." The pain, or, circumstances of natural labor demanding chloroform, its acceptance, or rejection, should rest entirely with the patient and her friends. A due regard to his own interests should restrain the practitioner from doing more than to offer the means of alleviation of suffering.

Before proceeding to the administration, the condition of the heart should be ascertained. Then, sprinkling a few drops on the sponge and squeezing it together, it should then be held in close proximity to the patient's respiratory passages. If coughing is induced, the vapor is too strong. If the pains lessen in force or cease, a few words of encouragement, a little delay and recommence with a very small dose on the return of pains, will generally obviate the difficulty. I am in the habit of administering during the pains only, unless for surgical purposes, when it is carried to the extent of profound insensibility.

It is not the purpose of this paper to discuss this subject in all of its details, but merely to touch upon the most vital points; neither is it our aim to give all the indications for its employment, [as time is very precious.]

A few thoughts as to contraindications and we close. I have already referred to the importance of ascertaining the condition of the heart before its administration. It may be said that no contraindications exist to the administration of chloroform in labor when the severity of pain demands it. Diseases of the vital organs and some special conditions, however, demand careful consideration. In case of disease of the brain, heart or lungs, the same general principles must guide the obstetrician as the surgeon. Organic disease of the brain is not met with in parturient patients very often. The functional neuroses are no bar to the use of anæsthetics. Chloroform is one of the best remedies for any hysterical symptoms which may occur in labor. Occasionally an epileptic attack is brought on in a patient subject to epilepsy; still the mass of authority says that "an epileptic is better off with than without the anæsthetic. Advanced phthisis will rarely be seen in connection with labor, however, more often than one would think. In surgery, chloroform has been administered to patients suffering from advanced lung disease, even in the last stages, and in those who have had attacks of hæmoptysis, without ill effects. Champoinniere has given it during four hours to a woman suffering from tubercular lesions for some time, and who was breathing badly. The results were so satisfactory that the woman begged for it after delivery, and was gratified for more than an hour. In another case, where cavities of considerable size had been diagnosticated, and in which the temperature was 102 1-5° F., anæsthesia continued for two hours, gave results not less favorable. Parvy says: "Diseases of the heart are no contraindication to the use of chloroform." Hirst says: "Of all the diseases of the heart, fear evils when fatty heart exists," and this condition cannot always be more than presumptive.

Diseases of the kidneys accompanied by albuminuria are no contraindication to the use of chloroform. It is not only a leading remedy in puerpural convulsions, but renders efficient service in warding off attacks. It is claimed that in valvular diseases of the heart, the patient is safer with chloroform, where it is given as above directed, than without it.

I might go on at some length, but as I have, no doubt, been somewhat tiresome already, I close, leaving the matter before you for a fuller consideration.

At the conclusion of the paper, a hearty discussion followed, participated in by every member present.

Society Proceedings.

Chicago Medical Society.

A. E. Hoadley, M. D.....*President.*
Junius C. Hoag, M. D.....*Secretary.*
F. A. Holland.....*Stenographer.*

Stated meeting. The President, Dr. A. E. Hoadley, in the Chair.

Chicago, February 3, 1890.

Dr. Archibald Church read a paper on *Peripheral Irritation in Nervous Diseases.*

Less than a dozen years ago standard medical works abounded in disease and varieties of disease called idiopathic and functional, some of which are now happily better understood and the rest may eventually be brought within the pale of the knowable. These words are descriptive of observed states whose etiology and pathology are as yet unknown and pleasantly substitute a bald acknowledgment of inability to explain. As an instance, so recent a publication as the International Cyclopœdia of Surgery in its first edition, which appeared in 1881, devotes scores of pages to idiopathic erysipilas. Again idiopathic tetanus is just being rescued from this lingo of things inexplainable and assuming its proper niche. In no department of medicine has so-called functional trouble flourished as in the category of nervous diseases. From the nature of things and the many remaining physiological problems in this field, advancement toward the obliteration of this *terra incognita* from our medical charts is neccessarily slow and laborious, but the tendency is manifest. Peripheral neuritis has been transplanted from the weedy garden of neuralgia and progress is making all along the line. It is reasonable to suppose and natural to hope that at a not too distant day every departure from health will have its clearly understood and demonstrable pathology and that medical literature will be emancipated from these resonant and tympanitic adjectives which in the meanwhile are useful, but should be employed with well understood reservation.

The activity and potency of peripheral irritation in maintaining diseased states of nerve centres when once established and in producing such states where a predisposition exists, has recently received much attention and discussion with results suggestive, valuable and, best of all, practical in the direction of treatment. The importance of this factor is beyond question and though its recognition brings us no nearer to the *fons et origo* of diseases in the nervous apparatus, it furnishes a fighting chance in combatting their

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supremacy over ordinary therapeutic modes of attack. Recall the multiform nervous manifestations in young boys associated with phimosis which are not unfrequently relieved by circumcision. Not to go afield, bring to mind the instructive cases of insanity apparently cured by unloading the colon which were a short time ago reported to this society by Dr. Moyer, and which find their counterparts in the practice of every asylum physician. In a short paper on the treatment of epilepsy which the writer was privileged to read before you last year, it was pointed out that various authoritive writers had reported cases of this disease "by the correction of squint, astigmatism, "ametropia and asthenopia; by the removal of an in- "growing nail; by the expulsion of a few round worms, "a tarnia, a fecal accumulation, or a foreign body "from the intestines; by the excision of a slight cicu "trix including nerve filaments, by the removal of a "spiculum of bone or even of a slight roughness of the "inner table of the skull, producing irritation of the "meninges; by the excision of cerebral tumors; by the "removal of biliary and urinary calculi; by the extrac- "tion of a carious tooth; by the correction of vicious "habits and abnormal conditions of the genito- "urinary tract, etc.," and the word cure is used in this connection advisedly in its broadest sense.

With slight modifications, substantially the same statement may be made regarding chorea, hysteria, migraine, neuralgias and the condition denominated neurasthenia, or, in other words, that all so-called functional neuroses are often the emphatic expression of a peripheral irritation. It follows that in a given case every organ must be thoroughly scrutinized, every terminal twig of the great nerve tree examined and, if need be, put to rights before the patient is subjected to a routine line of treatment founded on empiricism, the resort of a last hope rather than an initial tentative, and the demonstration in some measure of our inability to definitely localize and explain the fault.

Although these widely varied and strangely distributed irritations may produce such extensive nervous manifestations, they all have a degree of permanency and continuity of action in common. An alarming sound may throw a child into convulsions, but in reality the inciting cause of the kinetic display is the more or less prolonged fright resulting from the noise. It would be impossible to enumerate a tolerably complete list of these peripheral irritations in the limits of this paper, and I would confine the field to a few of these important conditions implicating some of the cranial nerves.

There is an unquestioned concensus of opinion that the period of primary dentition is a trying and perilous epoch notwithstanding the claims in some quarters that the eruption of teeth is a purely physiological process and in no way accountable for the ills often associated therewith. The occurrence of convulsions at this time of life is very far from rare, and in certain instances the relation of cause and effect is not doubtful, the nerve storm rising and falling with the irritation in the gums. Dr. Brubaker, of Philadelphia, reports in an interesting paper published in the *Journal of Nervous and Mental Diseases* for last year a collection of the records of sixteen cases of epilepsy immediately and permanently cured by the removal of irritating teeth. Neuralgias in distant regions are so frequently found to be dependent upon irritation of branches of the fifth nerve, particularly in the mouth, that an examination of its distribution can never be properly omitted in this class of cases.

So thoroughly reliable an observer as J. N. McKinzie reports cases of asthma, nervous cough, migraine, chorea, epilepsy, hysteria, melancholia, retarded sexual development and exopthalmic goitre, dependent upon an irritated condition of the turbinated bodies, and cured simply by the correction of this local state. His observations are abundantly confirmed by other writers on rhinology in this country and abroad.

Owing probably to its six sources of innervation, and its constant functional activity, the eye furnishes a rich field for peripheral irritation, and supplies some striking examples of nerve instability maintained by seemingly trifling and inadequate conditions.

The term eye-strain may be considered as generically embracing the depressing conditions resulting from errors of refraction, and from errors in the balancing of the extrinsic ocular muscles. In a way, eye-strain is equivalent to muscle strain, and may be described as the muscular hyper-activity requisite in all these states to their physiological correction. This brings us to the query, whether combined muscular strain, or effort, can constitute an irritation sufficiently intense to provoke serious nervous symptoms.

The experiments of Drs. Sercum and Parker, of Philadelphia, published in 1884, although unconfirmed, as far as I know, seem to definitely settle this question in the affirmative. They found that prolonged strain of a muscle, or group of muscles, in the extremities of apparently healthy subjects would produce convulsions of a severe type after a longer or shorter period, depending upon the individual equation. The required time in each instance became progressively shorter, while the character of the convulsions became gradually more severe, showing the role of habit and the increase of susceptibility after the first occurrence of the nerve-storm thus induced.

Their methods were very simple. The subject was required, for example, to keep the points of his fingers just in contract with the surface of a table, to concentrate his attention on some subject, or object, and to maintain the position inflexibly. There is in this, of course, more than a hint of hypnotism and suggestion, but the uniformity of the production of convulsive movements is the important point in this connection.

You are all familiar with the extreme position taken by Dr. Stevens, of New York, in regard to eye-strain as a casual factor in the diseases we are considering, and have probably noticed the unfavorable report of the Commission of the New York Neurological Society, appointed to investigate his line of treatment. The theory upon which he works, and which, not in his hands alone, has led to some brilliant cures, is very captivating and unquestionably has some foundation of truth. The constant though unconscious effort in controlling the muscular apparatus of the organs in vision during every instant of the waking hours is not less than prodigious for even the normal eye.

In those predisposed to, or the subjects of nervous instability, when this effort is intensified by ametropia or asthenopia, it may be sufficient to upset the equilibrium of the storage of nerve force with tempestuous discharges as a result. It must, however, be borne in mind that the percentage of emmetropic

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eyes, in civilized countries at least, is very small—probably not more than twenty-five per cent—among the people of large communities where schooling and sedentary pursuits are the rule, have normal vision.

Add to the defects of refraction the list of conditions embraced in the term asthenopia, and it is not strange that the subjects of neuroses so frequently present abnormalities of the visual apparatus. The fact that relief and cure sometimes follows the correction of the eye trouble gives a certain undeniable value to the claims of Stevens and his adherents. By the use of glasses to correct the ametropia, and of tenotomy to rectify the asthenopia, marvelous results in cases which have defied every other line of treatment are claimed.

The relation of migraine on one hand, to eye-strain and its cousinship with epilepsy on the other, is of freqeent observation, and in this connection of suggestive interest. Its cure by the adoption of proper glasses is so common a proceeding as to be no longer the subject of special mention, and such instances fall under the observation of everyone.

The ear, possibly owing to its less complicated function, its better anatomical protection and its simpler innervation, while as constantly active as the eye, seems to be less capable of giving rise to reflex trouble. Yet constant irritation of the auditory nerve by inflammatory process, by foreign bodies in the external canal, by blocking of the eustachian tube or by the action of certain drugs, sometimes gives rise to intense mental distress, severe pains in various portions of the head, and even to convulsions. The irascibility of the deaf is proverbial and possibly worth mentioning. In hydrophobia, tetanus and strychnia poisoning the slightest sound may determine frightful convulsive phenomena.

It has been urged that convulsions of peripheral origin have certain peculiarities which serve to distinguish them from those of true epilepsy, so called; but the differences pointed out are far less important in degree and kind than those presented by the attacks of grand and petit mal, the essential nature of which is confessedly identical.

In conclusion it may be stated that the object of this paper is by no means to claim an invariable peripheral origin for the neuroses denominated functional, for their dependence upon and uniform association with defective central conditions is fully determined; but it is desired to emphasize the predisposing, inciting and perpetuating relationship of such irritations to the diseases in question and to urge their primary consideration in the treatment of these maladies, nor is it sufficient or proper, as intimated by Starr, in the MEDICAL RECORD of Jan. 4, 1890, to wait for the patient to voluntarily direct attention to them.

Dr. J. Elliott Colburn read a paper entitled: *Eye-Strain in Its Relation to Nervous Diseases.*

Mr. President, Members: It gives me great pleasure to be able to contribute my experience on the side which I believe to be in the right in this controversy which is engaging neurologists and opthalmologists all over this country, and especially in New York.

To the members who have been interested in this ›ject, the names of Stevens and Ranney have be- e familiar by means of their frequent contribu- . To the careful inquiry, untiring study, scientific classification and reports of Dr. George T. Stevens do we owe all that we have that is original on the subject of functional nervous diseases and their relation to a hetrophoric condition of the eyes.

Among those who have confirmed the deductions of Dr. Stevens, Dr. A. L. Ranney stands as most important, for he came to the study of this class of cases as a neurologist and, as he told me, prejudiced against any so-called specific cause or cure for this class of diseases. It will repay any of you who have not done so to review this question in the works of Drs. Stevens and Ranney, and to go over the files of recent numbers of the *Medical Record* and *New York Journal of Nervous and Mental Diseases*, where you will find the report of the commission appointed by the New York Neurological Society, also papers by Drs. Ranney, Starr and others on this topic.

The following paper is based upon five hundred consecutive cases, consulting me for supposed eye-strain, and can be best studied in the following classes: Ametropia, 446 cases; Emetropia, 54 cases. Of the ametropic there were 104 cases of myopia simple and compound, 260 cases of hypermetropia simple and compound; hypermetropic astigmatism, 54 cases; myopic astigmatism, 28 cases. Of this number 486 complained of discomfort in the eyes or æsthenopia; six cases had mystagmus in varying degrees.* Of the ametropic there was manifest hetrophoria in eighty-six cases; of the emetropic manifest hetrophoria in twelve cases. Total hetrophoria ninety-eight cases, distributed as follows: Myopia, simple and compound, exophoria twelve cases, esophoria four cases, hyperphoria three cases. Of the hypermetropic, simple and compound, esophoria forty-six cases, exophoria nine cases. Myopic astigmatism, esophoria three cases. Hypermetropic astigmatism, exophoria nine cases. In the emetropic eyes esophoria occurred in four cases, exophoria in eight cases, hyperphoria in four cases.

The classification, according to disease and treatment, stands:

Headache, 385 cases. Cured, 260 cases; benfited, 118 cases; not improved, 7 cases.

Recurrent Headache, 15 cases. Cured, 11; benefited, 1; not improved, 4.

Migrain, 59 cases. Cured, 38; benefited, 9; not improved, 12.

Epilepsy, 7 cases. Cured, 5; benfited, 2.

Chorea, 11 cases; Cured, 9; benefited, 2.

Neurasthenia, 23 cases. Cured, 20; benefited, 3.

Nearly all of these cases had been under the care of physicians at various times, and many were referred to me for examination and treatment. Some of the cases combined nearly all of the symptoms incident to the diseases as classified above.

Treatment.—In the ametropic cases correcting glasses were given in 438 cases, and graduated tenotomy made in 56 cases. In the emetropic cases graduated tenotomy was made in 9 cases, making 65 tenotomies in 98 cases of hetrophoria. The hetrophoric condition was manifestly an important factor in 15 of the 16 cases of asthenopia, which were also emetropic, and I advised and made the operation at once. The remaining 41 cases were tenotomized at intervals of from one month to three years. The correction of the error of refraction giving only partial relief,

* Report in progress of preparation.

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the cases relapsed after a short time, showing that the hetrophoria was the important factor in producing the asthenopia. The cases of simple hetrophoria uncomplicated by any error of refraction were operated after careful measurement and estimating the degree of hetrophoria.

I will give a typical case of each group, the symptoms being classified as Habitual Headache, Migrain, Hysteria, Chorea and Epilepsy:

Habitual Headache.—Mr. C. H., aged 32 years, had for a number of months previous to 1887 suffered from constant headache, most severe in the occipital region, with more or less mental depression during the severity of the attack. The noticable feature of the headache was its awaking him in the morning early, usually about six o'clock, and persisting until nearly 6 o'clock in the evening, when it would, as a rule, gradually become less severe and finally pass off before retiring.

He had been under the treatment of various physicians, they directing treatment to the correction of the function of various organs, and, being an ex-druggist, he was somewhat familiar with the use of remedies, and had taken brom'des, caffeine, bromocaffeine, etc., hoping to relieve the pain at least. He consulted me, and on examination I found an error of refraction. R. V. = + 125 cy. ax. 90. L. V. = + 75s. + 75 cy. ax. 90.

This was in September, 1887. He failed to obtain relief from the headaches, though they were somewhat lessened, and consulted me again to see if some change of glasses would not give him relief.

At this time I found that he would not tolerate a full, and gave him a modified correction, as follows: R. V. + 75 cy. ax. 90. L. V. + 75 cy. ax. 90. This, for a short time, seemed to relieve the trouble, but during January, 1888, he came to me again complaining that the headaches were becoming more severe. I then called his attention to the exophoria which I had discovered in my examination of the previous September, and advised him that it would be best to make a tonotomy. This he objected to, but after consulting various physicians regarding the advisability of the operation, came to me again in June, 1888, and I then found a hetrophoria as follows: abd. 4°, add. 10°, *esophoria 4° to 5°*. I then made a graduated tenotomy correcting about one-half of the esophoria. One month later I made another tenotomy, correcting about one-half of the remaining, or 1½°. For a long time following the operation the headaches were very materially lessened and finally disappeared until about the first of December, 1888, when they returned with great severity, and on examination I found a manifest esophoria of 4°. January 1, 1889, I made almost a complete tenotomy correcting a little more than one-half the error, leaving an error of 1° to 2°, the external recti muscles not seeming to be able to perform their function. From the first of February until about the middle of June he had complete freedom from headaches. About the first of July the headaches returned with great severity, and on returning from my vacation I found that he had been suffering from severe pain, sleeplessness and mental depression until his family feared that there was some serious brain disease. I then proposed to make an advancement of the tendon of the right eye, but he opposed this procedure and asked me to make a tenotomy, promising to submit to the advancement in case the tenotomy was of no avail.

Consequently, on July 15, I again made an almost complete tenotomy of the left internus, without being able to correct the esophoria. About August first, assisted by Prof. Hoadley, I made advancement of the left externus, correcting all but one-half degree of the esophoria. Within three weeks of the time of the operation the headaches had materially lessened, and finally ceased altogether. Since that time he has had but one attack of headache, and that was during the holiday trade. He had been working night and day for two or three weeks. He became considerably alarmed at his condition, and by the advise of Prof. Hoadley and myself he consented to be more temperate in his work, and in a few days the headaches disappeared, until now, he is absolutely free from the constant headaches and has only an occasional light attack. Mr. Wilcox has kindly consented to be present to-night in order to allow any member who desires to see the result of repeated tenotomies to examine his eyes.

Constant Headache with Recurrent Attacks of Migraine.—Mrs. R., aged 22 years, consulted me first in 1884 for constant headache with recurrent attacks of migraine. Neurasthenic Family History; Personal History.—Had always had fair health, but had been subject to headaches from early childhood, increasing during school work and decreasing during vacations. Frequently the trouble would increase during the latter part of the term and become so severe as to necessitate the patient's withdrawal from school.

On examination I found astigmatism in each eye—75 ax. 180°. I advised constant use of glasses. There was also a manifest exophoria of 4°, which at that time I tried to correct by training the muscles by repeated use of prisms, The patient's general condition seemed to improve, and the headaches were much less severe and much less frequent but still continuing with sufficient severity to make it impossible for her to follow her vocation as a teacher. I advised change of employment, and change of climate. This was followed by no improvement, and she returned to the city. At my request she called upon Dr. Gradle for examination of the naso-pharyngeal spaces to see if there was any diseased condition of the nose that should cause her distress. He reported that there was none discoverable.

The patient continued to suffer from asthenopia, but would not submit to an operation for the relief of the exophoria which had not been relieved by the use of the prisms. She then passed from my observation for a time, but returned in June last and consented to an operation. This was made, and after repeated examinations I found still remaining about 2° of exophoria. About six weeks later I operated on the left eye, correcting full amount of hetrophoria. Abduction, which had been 12° to 15°, immediately fell to 8°. Abduction, which had been 5° to 6°, immediately rose to 30° and 35°. It has now been six months since the last operation, and the patient is able to use her eyes for hours without annoyance, and has had but two attacks of migraine during that time.

This case illustrates the persistency ot the asthenopia, even after everything had been done to improve the general condition; medicine, change of climate, change of occupation, correction of refraction,

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etc., with prompt relief of all the symptoms when the muscular condition had been made normal.

In this connection I will add a case, illustrating my experience with headaches in the *vertical region;*

Mr. B., aged 36 years, has always had good general health; has been in active business for years, and became overworked. During a bicycle tour was taken with pain in top and front of the head, but not in the immediate supra-orbital region, and it has been persistent.

Other causes having been excluded, Dr. Brower referred the patient to me for the examination of his eyes. Patient emetropic. After repeated examinations I found esophoria 4°, abd. 3° to 4°, add. 18° to 20°. Operated and found on the fourth day perfect orthophoric condition, with add. 36° and abd. 8° to 9°. Two months later there was no change in the condition of the muscles, and no improvement in the head symptoms. *I do not remember having seen a patient relieved who suffered only from vertical pain by either correcting an error of refraction or muscular strain.*

Dr. M. C. T. has suffered for a number of years from nervous headaches. Examined for error of refraction by Dr. Miles Standish, of Boston, and an error found, which was corrected, and for a time the sick headaches, from which he had suffered, were less frequent. During the year passed they had become more severe, and he consulted me for further examination. Dr. Standish, at the time he examined him, found an exophoria, for which he prescribed prisms. On examination I found an exophoria of 3°, which, under the correcting prisms used, after a few days developed an exophoria of 6°. A careful study of the case convinced me that the error was most marked in the right eye, and I made a tenotomy which was followed by a normal muscular condition. The headaches ceased and to date have not returned. In this case, prior to the tenotomy, his abd. was 8° and add. 7°, vertical displacement, exophoria 3°. Following tenotomy the add. was 30° and abd. 8°.

Case illustrating Hysteria and Congestive Headache. Miss L. M. H., aged 35 years. Family history good. Personal history: For years had not been able to attend church or theater without severe headaches. Easily startled, mental confusion, pain in back of head and neck, excitement frequently caused bad taste in mouth. Suffered pain between the shoulders and confusion of vision, subject to frequent attacks of weeping attended with great physical depression, sometimes followed by hysteria. The headache was preceded by congestion of the face, throbbing temples and pulsation at the back of the head, lasting from four to six or eight hours.

Muscular condition: Hyperphoria, 1°; exophoria, 8°; add., 8°; abd., 6°. Operated September 10, 1889. Following operation: Add., 30°; abd., 7°; exophoria, 2°; manifest hyperphoria, 1°. Operated for hyperphoria, still remaining an exophoria of 2°. October 23 operated to relieve remaining exophoria, which was successful. This patient had been under the care of a competent oculist in a neighboring city, and a compound astigmatism was perfectly corrected. The exphoria was diagnosed at this time, but the physician advised her to see what effect the glasses would have before attempting to correct the condition of the muscles. Failing to receive benefit and returning to Chicago, she was referred to me for further care. After the first operation there was a gradual improvement of many of the nervous symptoms, markedly the tendency to weep. Following the last operation there has been almost complete cessation of all of the symptoms; the only remaining trouble is the annoyance arising from finding herself in a crowd.

Case Illustrating Epilepsy—Petit Mal.—Miss L., aged 18 years, has been in delicate health from childhood. Late and painful periods, nervous indigestion, facial neuralgia, nervous headaches, short attacks of general chorea, constant choreaic movements of the face, tilting of the head forward and to the right side. Morose, given to spells of crying, at times vicious and inclined to use vulgar language. During the past month has had eight attacks of what had been diagnosed as petit mal. I had to spend a number of hours in trying to obtain a correct test for muscular condition. Error of refraction I found to be 2.75 diop., each eye. After some time we were able to prevail upon the patient to wear her glasses constantly. We then found there was a right hyperphoria of 5°. This was corrected, when the patient was noticed to change the pose of the head and there was an improvement in her movements.

One month later the condition was so much improved that my patient wished me to take further measurements and see if there was more that I could do for her. I then found a slight hyperphoria and an exophoria of 4°. The eyes were again operated and the condition found to be normal after fifteen days. From this time on the child improved and changed in every way until one not witnessing the change would not know her as the same person that began treatment four months before. She is now reading and studying and taking an active interest in everything about her.

Mrs. B., aged 45 years. Neurasthenic family history; father died from locomotor ataxia, one cousin committed suicide during an attack of mania, also various other minor neurotic conditions in the family. At about 35 years of age began to have attacks of petit mal. In the interim she was mentally depressed and contemplated self-destruction. She was under the constant surveillance of her family, they not allowing her to come into town alone or to be out of their sight for any length of time. She would become so confused from the noises of the city that she would become perfectly dazed and unable to find her way to her destination. On examination I found that she had a hypermetropia of 2 diop. in each eye. Total correction was given, the asthenopia from which she had been suffering for a short time was speedily relieved.

Continuing my examination I found an esophoria of 6° with a right hyperphoria of 4°. I corrected the hyperphoria, and to my astonishment there was an esophoric condition manifest of 8° to 10°. At intervals of four months two operations were made for the relief of the esophoria, reducing the error to an inconstant 2° of esophoria, for which I shall soon make an advancement of the right externus. This patient has been under close observation for two years. The old suicidal tendency has entirely disappeared. She has had but one attack of petit mal since the first operation, and that during an extended use of the prisms.

Her whole manner is subdued and normal, the fear of being lost on the street or of stepping down an inclined plane is no longer experienced; the at-

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tacks of confusion and distress are seldom felt; the severe headaches, which had been the result of any mental strain, are experienced only at long intervals. While she is not a well woman, she is so far improved that she has a keen enjoyment of life instead of the desire to end her sufferings. I hope that by another operation she will be still further improved, and that nature will ultimately establish harmony in a nervous system previously discordant.

The results of my observations may be summed up in the following:

1st. That 90 per cent of the various forms of habitual headache are due to ocular errors, and that the correction of these errors under favorable conditions will, in all cases, lessen the frequency and severity of these attacks, and in 90 per cent of the cases effect a cure. That the area of hyperæmia, anemia or irritation, from whatever cause, once established, will be subject to recurrent attacks caused by other irritation than that which established the susceptibility.

2d. In certain forms of hysteria, or such conditions as are incident to the form of neurasthenia which may be caused by ocular errors, that the removal of the cause will at least facilitate the cure of the disease, and in 20 per cent of the cases cure it without other aids. It might be well to notice that the large majority of my cases had been subjected to every other known form of treatment, often for years, before they were referred to me for treatment or diagnosis, even.

3d. Chorea may be caused primarily by errors of refraction and hetrophoria, or either condition alone. The exciting cause may be any of the incidents or accidents to which the patient may be subjected. The depressing effect of the abnormal ocular condition may be primarily overcome by the change in the general condition of the patient and the chorea be cured, its predisposing cause not having been removed. The removal of the primary cause is not always followed by the cessation of symptoms. A person subject to chorea from any form of irritation may suffer from a relapse of the disease from any other form of irritation.

4th. Epilepsy may be caused by eye-strain, at least the removal of this irritation is followed in a large majority of cases by cessation of the fits and a gradual improvement in the mental and physical condition of the patient. I have examined twenty four cases of undoubted epilepsy, and in twenty cases I have found error of refraction or hetrophoria, or both. These cases are the most difficult to study and require the greatest patience, tact and perseverance to handle successfully. There is no *presto change* result, but a slow, gradual improvement, requiring months of care, study and skillful management. The short visits which I have had the pleasure of making to the offices of Drs. Stevens and Ranney were of infinite value to me in aiding me to acquire some of the technical skill necessary to the study and treatment of these diseases, and most of all to impress upon me the patience and perseverance that are necessary to the complete knowledge of these cases.

5th. That these errors are of great importance as modifying the physical and mental development of children. When we consider that coincident with the development of the child into the man or woman is made the greatest demand upon the eyes of the growing youth, it will not be surprising that the genital functions, more particularly the female, should be modified by reflected irritation.

I wish also to call your attention to the possibility of incomplete or imperfect operations for strabismus causing nervous irritation. I have come to question the advisability of operating for strabismus in cases who are unable to remain under observation for a time sufficient to study muscular adjustment accurately. An apparent condition of binocular adjustment is not sufficient to secure binocular vision, much less a perfect orthophoric condition. I have had four experiences where an opportunity has been offered me to study the muscular condition of patients who have been operated for strabismus, the correction of refraction having been done in the orthodox way. The case given below will illustrate this condition.

L. J., aged 15 years, had marked convergent strabismus very early in infancy. Parents ametropic. Consulted me, and I found R. V.=20–60, L. V.=20–80. This was fully corrected under atropine, giving 20–20 in both eyes. One month later operated on internal recti with apparently perfect results, ordinary tests gave no evidence of insufficiency. One year subsequent the patient came to me again to be re-examined for glasses and incidentally remarked that she suffered from severe headaches, though she seemed to have no thought of attributing the cause of the headaches to her eyes. I was curious to know if there was trouble, and on examination found a hyper-exophoria of 4°; no history of double vision, or other evidence of ocular irritation. Acting on the suggestion made by Dr. Stevens I operated on the inferior rectus of the left eye, and to my astonishment the whole trouble was at once at an end.

Profiting by this experience, my latter practice has been never to make a complete tenotomy for even the greatest degrees of strabismus, but to make graduated tenotomy and advancement, aiming to secure a perfect orthophoric condition before consenting to discharge the patient. This condition may be safely insisted upon, even though one eye is amblyopic to a great degree. In this class of cases my results have been better than before, and I have had no relapses.

In conclusion, I would say that Headaches, Chorea and Epilepsy *may be caused*, in my opinion, by errors of refraction and errors of muscular adjustment, and that a relief, or correction, of these conditions will, in a large majority of cases, result in the more or less perfect cure of these diseases.

Dr. M. R. Brown read a paper on *Report of Cases of Nasal Reflex Neuroses.*

Mr. President and Members: In the endeavor to comply with the request to supplement the papers of Drs. Church and Colburn with a short report of cases of Nasal Reflex Neuroses, I have been placed at a disadvantage, from the fact that but imperfect and incomplete notes are kept of my patients; however, I have selected four cases which have been of unusual interest to me, and which will serve to illustrate some of the varied abnormal conditions not of frequent occurrence produced by irritation of the delicately lined and highly sensitive nasal passages.

Case 1. Mrs. S., æt 50, of a brunette type, medium height and somewhat anæmic appearance, but with bluish-colored lips, appeared for the relief of a cough which had been a source of annoyance for years and which had resisted various forms of treatment. Her

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paroxysms of coughing were often brought on by a jar resulting from a misstep, or from rough contact with any object, and her efforts to avoid them during recent years led to the acquisition of a slow and steady gait and a habit of cautious and deliberate action. All her acts were executed with great care, food and drink were taken slowly and in small quantities, the voice was pitched low and the words were spoken with a certain degree of deliberation. In bed at night she avoided changing the position she had first assumed. From her history it was noticed that every change in position which had appeared to be either of the nature of a jar or a movement of the throat, unless made very carefully, would be followed by a severe paroxysm of coughing and the expectoration of a profuse material which by its appearance and quantity almost suggested the bursting of an abscess.

Examination disclosed moist bronchial rales in abundance, and the laryngoscope showed chronic laryngitis and tracheitis. The inferior turbinated bodies were greatly hypertrophied, and from their posterior end projected two tumors, dark blue in color, which came in contact with each other and almost entirely occluded the posterior nares. Moving the soft palate or touching the tumors with the probe excited the cough and expectoration. There being objections to the immediate and complete removal of these growths, which I considered to be the main cause which produced the disturbance, it was determined to reduce them by the application of the electro-cautery. Cocaine having been freely applied to the pharynx and the tumors, a cautery knife-electrode was passed under guidance of a rhinoscopic mirror behind and above the soft palate, and the two tumors were punctured. This brought on immediately a paroxysm of coughing which was followed by free hæmorrhage.

A diminution in the severity of the paroxysms was now noticed. The same treatment was repeated every few days, and as the relief was greater after free bleedings, due to the diminished size of the tumors, the patient soon noticed the difference and when I failed to cause hæmorrhage she would cough and blow the nose until the desired blood appeared. These little operations were carried out until the tumors became quite small. The cough and expectoration in the meantime growing less until they had so far diminished that the patient experienced but little trouble from them. She discontinued her visits to the office until a freshly contracted coryza caused a swelling of the turbinated bodies, and a partial return of the cough. A few treatments again relieved her so that she has not found it necessary to continue her visits.

Case 2. Miss —, aged about 25, blonde in type; well nourished and healthy in appearance, but her face literally covered with acne papules and pustules, was referred to me by a medical friend, for the relief of a persistent sore throat. Examination disclosed a very extensive, sub-acute pharyngitis, hypertrophy of the turbinated bodies of both sides, considerable turgescence of the inferior turbinated bodies, hyperæmia of the mucous membrane and hyperostosis of a sutural line on the left side of the septum.

Local medication was employed for a few days, and as the intra-nasal irritation diminished, an improvement was noticed in the acne. The galvanic cautery was applied to the inferior turbinated bodies after which a rapid disappearance of the acne occurred. The patient has been recently seen and has very little acne and but slight intra-nasal irritation. From past experience with this case, I am satisfied that further treatment would entirely remove the slight remaining facial blemish.

Case 3. Miss —, age 35, a finely developed and well nourished brunette, of medium stature and nervous temperament, was referred to me by her physician for examination of her upper respiratory tract.

The incessant and annoying, harsh, dry and bark-like cough, which I could hear whilst she was waiting in my reception room, caused me to infer that I would have a case of hysterical or reflex cough to deal with.

The history given was a succession of colds, each more annoying than the preceding one, and attended by closure of the nasal passages, desire to cough, headache and general distress. Examination showed closure of the nares from turgescence of the turbinated bodies. A 4 per cent solution of cocaine was sprayed into the nose and pharynx, and the cough at once ceased. After the turgescence had subsided, a small mucoid growth was seen on the anterior and inferior part of the right turbinated body, which came in contact with the floor of the nasal cavity. Emollient treatment was applied to the nasal mucous membrane, and ordered to be continued by patient at her home. When she returned after two weeks, she reported a great improvement in all her symptoms. The small growth in the nose was then removed with the cautery snare, and the cough finally and completely ceased.

Case 4. Mr. ——, aged 35, a well-built, muscular blonde, whose occupation necessitated much railroad and open-air travel, applied for relief of a pharyngitis. The disease had been in progress for several days; he had marked fever and its usual accompaniments, and swallowing was difficult and painful.

Examination disclosed a high degree of inflammation of the entire pharynx, with œdema of the uvula and soft palate. After a few days of treatment the symptoms disappeared, the inflammation and œdema subsided and the parts returned to their normal condition. Upon inquiry I found this gentleman had been occasionally troubled with attacts of acute pharyngitis which had incapacitated him for work, and recently his trips to the city had seemed to aggravate the condition. He made no complaint of nasal disorder and insisted that the abnormal condition which I discovered in the nasal cavities had given him but little trouble. Unable to discover any cause for this infrequent form of repeatedly recurring pharyngitis and being desirous of checking their further appearance, I suggested the possibility of them being of nasal reflex origin and that I cauterize the hypertrophied coverings of the inferior turbinated bones of both sides and remove the ecchondrosis pressing into the left turbinated body. The pain and disturbance in the pharynx having disappeared and his sufferings being forgotten, the patient was not willing to submit to the treatment suggested.

After a few months Mr. —— again presented himself, suffering from another attack of his old complaint. The same treatment was gone through with and the same relief ensued. It was now noticed that the attacks were becoming more frequent and severe and that each was accompanied by a more annoying acute coryza. The patient finally became alarmed at his condition and requested me to do whatever I might deem best for him. I therefore removed the ecchondrosis from his septum and thoroughly cauterized the

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inferior turbinated bodies. That was about a year ago; since then there has been entire freedom from all colds and pharyngeal disturbance. On one occasion, however, about three months after the operation, he felt a little uneasiness in his throat, caused by exposure to inclement weather, and called at my office. Local treatment was employed and seemed to restore the membranes to their normal condition.

Dr. F. C. Hotz: *Mr. President*—When I am in full accord with the views expressed in the paper I seldom rise to take part in the discussion, because I have nothing to discuss, and because I do not think it is interesting to the members of the society to hear an incomplete repetition, given extemporary, of the views so ably expressed in the paper. If, upon the request of the President, I depart from this rule to-night I offer as an apology that I consider the subject discussed by the various papers, and particularly the one read by Dr. Colburn, of so great importance that it cannot be too frequently urged upon the attention of the profession; and also because of the peculiar position taken by so many of the gentlemen particularly interested in this investigation of eye-strain and its relation to nervous diseases, the oculists and neurolgists; and, if I may judge by the scarcity of attendance to-night, for the indifference shown by the general profession to this subject.

I suppose we all agree, that if there is no organic lesions found to account for nervous disorders; if none of those manifest peripheric irritations which Dr. Church refered to in his paper are found, we are completely in the dark as to the cause of a great many nervous disorders; and I should think a doctrine based upon actual clinical experience and observation, which claims to show a palpable cause for many of these nervous disorders, would be welcomed by everybody who has the interest of his patients at heart. As I said in an address delivered as chairman of the Opthalmological Section, two years ago in Cincinnati, I consider it the duty of the specialist and general practitioner to work together in harmony in investigating this point, and see whether the doctrines advanced by Dr. Stevens, of New York, and his followers are true or not. But what do we see! The most remarkable indifference shown by a great many of the oculists.

Dr. Colburn referred to one paper—the report of the so-called Stevens Commission—which shows an actual hostility; which shows that the Commission did not regard it as its function to investigate and find out the truth of the matter, but rather to embarrass Dr. Stevens. At least that is the impression I received after a careful reading of this report. I have met with a number of young physicians who had gone East to receive a scientific polish, especially in ophthalmogy, and unless they had the good fortune to make the acquaintance of Dr. Stevens or Dr. Ranney they came back highly prejudiced against them. A prejudice inoculated by men who never have taken the pains to investigate this subject in the manner in which such a subject ought to be investigated if one wishes to form an opinion for himself; that is, they never took the pains to try his method. This is a very deplorable condition of things, but I think the truth will come out now, and as Dr. Stevens wrote me a few days ago, all these hostile manifestations have at least shown that they consider the doctrine a very strong one when they go to such extreme measures as this commission has done to break it down. So much in regard to the importance of the subject.

As I have said, my own experience is so fully in accord with that recorded by Dr. Colburn, that I have very little to add; I only want to say that when these examinations are put in writing, everything sifted down, as the Doctor has done with his cases, that they look very smooth; but I assure you it is not plain sailing in arriving at the conclusions necessary before proceeding with an operation, if the correction of refraction does not accomplish your object. It is a very pains-taking investigation, but, therefore, the more gratifying if all your trouble is rewarded by the desired result.

In regard to the influence of refractive errors on nervous disorders, especially headaches and allied complaints, there is little difference of opinion. I think all agree with us that refractive errors often give rise to these disorders which are relieved by correcting the refraction. But in regard to the muscular anomalies, these slight disturbances of the harmonious action of the muscles, that this is a point on which the majority have not yet come into line. To me it is passing strange in view of the vast amount of clinical material published, which ought to convince every one, unless (and the enemies of Dr. Stevens have gone so far as to insinuate the highest degree of untruthfulness on his part) he doubts the word of the gentlemen who reported these cases. But a simple experiment, which everybody can make, ought to convince the experimenter: Take a prism (and it does not need to be a very strong one) and hold it before your eye, with the base up or down, so as to induce an artificial eye-strain. This produces a condition which we claim exists in these cases of slight muscular anomalies. Keep such a prism on five or ten minutes and you will experience a peculiar sensation, starting from the eye and soon extending around the head, a feeling of a tight band, which finally settles into an acute pain in the back of the head, which will last several hours, perhaps a whole day after the prism is removed. These are just the symptoms we find in such cases and which we claim are due to a slight disturbance in the harmonious action of the eyes. The eyes, or the mind probably, dislike double vision, and the eyes cannot see the object single without the visual lines being made to converge upon the object. The mind will force the eyes to do it at any cost, and it is the extra effort of one eye or the other to bring to bear its visual line upon the object that we call eye-strain. Especially those cases of vertical deviation, that is with a slight tendency of the visual line of one eye to rise above the other, are, in my opinion, the most interesting ones and also the most gratifying ones to treat.

One remark of Dr. Colburn's called to my mind a case that I may mention with regard to the indirect effect of such deviations upon even the sexual organs. A lady was under my care about five months ago who had been under the treatment of competent physicians for several months for uterine trouble, irritable ovaries, etc., without receiving the slightest benefit.

She complained of peculiar head symptoms and a neurologist was called in. He could not detect anything to account for them and referred the case finally to me, thinking the eyes might be the cause of the head symptoms. When the lady first came to my office

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with her husband she could hardly stand, could not hold her head up while waiting, and when I examined her eyes her husband had to hold her head, and every few minutes the examination was interrupted because she complained so bitterly of the acute pain in her head and all down her back. She stated that for many years she had been troubled with more or less headache, particularly when she looked at anything attentively. For instance, in church, when looking at the preacher during the sermon, she was soon seized with a feeling of dizziness and faintness and the pain in the back of her head became intense, her fingers became numb and the pain extended all the way down the back. Examination showed some astigmatism, which was corrected by glasses, but a few weeks' use of the glasses satisfied me that that was not the source of the difficulty. The muscles were tested, and finally, after repeated examinations, I was convinced that there was an upward tendency of the left eye, not of a very high degree, but sufficient to account for the trouble, and I performed Stevens' tenotomy of the superior rectus. The patient's condition was remarkable when she returned to the office a week afterward. My assistant first noticed her coming into the room alone, walking as straight and looking as proud as any one and taking an interest in everything that was going on, while before she was as languid and indifferent as could be. There was a most remarkable change in the whole mental condition and her headache was gone. To restore complete harmony to the muscular action another partial tenotomy was necessary. These two operations restored and kept the functions of the eye normal, and strange to say, not only her head was relieved, but she was relieved also of all irritable condition of the sexual organs.

In conclusion, I would mention another case because it was just as good as an experiment. He was a young, healthy-looking farmer, who had for eight years tried in vain to find a doctor who could relieve him from a supra-orbital neuralgia. He came to me about two months ago, and upon examination I found very marked, what used to be called insufficiency of the interni, that is a tendency of the eyes to diverge. It required a prism of 10° to bring the images one under the other. The patient stated that these attacks at first came on once a day, then several times during the day, and finally became very frequent. I could produce an attack at any time by holding a prism before his eyes so as to cause a little strain of the internal recti muscles. Looking through a prism at a candle at a distance to test the power of his internal recti muscles; he was seized with supra-orbital neuralgia, and I had to stop; in ten minutes it had gone, but another trial with the prism brought on another attack of neuralgia.

And so we demonstrated that a slight strain upon the internal recti muscles would bring on the neuralgia. Such cases as this show the influence of strain of the ocular muscles upon nerve disorders, and if such observations do not satisfy even the most exacting, doubting Thomas, I do not know what else we can do to convince them.*

Dr. Sanger Brown: I should like to ask a question in regard to some of these operations. I have been brought up to believe that the nervous symptoms described in Dr. Colburn's paper were largely and perhaps mainly due to some condition of the central nervous system which rendered it particularly susceptible to local irritations, and I would like to be instructed more definitely in regard to the asserted causal relation of these muscles to such symptoms. I notice some of the operations were performed upon patients who were thirty who have shown no marked nervousness till that age was reached, when suddenly, or perhaps slowly, these symptoms supervened. And as a matter of interest I would like to know if this shortening of the muscles or lack of balance was regarded as the result of the nervous condition, or if it had presumably existed from birth and had been overlooked and caused no symptoms until this time. What are the theories in regard to this? If it had existed from birth, is it not reasonable to conclude that the nutritional condition of the central nervous system was the main factor in bringing it into prominence?

As to the cause of the hetrophoric condition, it seems to be the opinion of both Stevens and Ranney that the condition is due to anatomical malformation, and of necessity a congenital condition. It also seems to me to be closely related to errors of refraction as a cause.

It is not claimed that these eye-strains are the only causes but one of many causes of irritation. The fact that the operation for phymosis did not cure all of the cases of suspected irritation, does not do away with the advisability of removing a possible source of irritation in a class of diseases the cause of which our neurologists seem to have so little definite knowledge.

The hereditary factors, structural formation, or the transmission of the so-called nervous tendency or predisposition, is of secondary importance. The question is, do these slight errors cause functional nervous diseases?

Dr. Colburn: As I reported last year,† the exciting cause was distributed over some five or six various forms of trouble, and I found upon examination that four-fifths of the predisposing causes were due to eye-strain, while the exciting cause was due to some accidental condition, some disturbed nutritive function, fright, some acute disorder that had left the ciliary muscle weakened and the patient endeavoring to see, the extra strain precipitated chorea. In the same paper I called attention to the hereditary factor in producing it, that is that it is the ocular condition that is hereditary. I have three cases under observation now that are interesting in that particular; a mother and two daughters, who have identically the same form and same degree of cylindrical deviation. One daughter is a nervous, irritable, vivacious girl, subject to all sorts of nervous manifestations. Another is subject to epileptic attacks, while the mother is quite a well woman, with the exception that she has some form of nervous disturbance affecting the left side. These conditions arise from exactly the same cause.

There is in both the mother and two daughters an esphoria, in one I think it is four degrees and in the

* Just before reading this proof I had another striking illustration of the profound influence of eye strain upon the nervous system. The patient's eyes showed a high degree of diverging tendency (exophoria); still in the desire for single vision they kept up binocular fixation until the object was approached to 12 com. But the convergence to this near point was accomplished only by an extreme tension of the internal recti muscles; in a few seconds his nerve energy was exhausted under this strain; he complained of a strange feeling in the head and of nausea, and fainted dead away. F. C. H.

†Report of 54 cases of chorea.

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other six degrees, and an inconstant hyperphoria, *i. e.*, one day it will appear and another day you cannot find it at all, day after day you will follow these cases until you find that there is trouble, and an operation for relief of the hyperphoria will show that the trouble has been with the superior rectus, for upon its correction the esophoria or exophoria is relieved.

Dr. Hotz: It seems that the doctor is a little puzzled at the statement that disturbances of the muscular balance will create trouble in a person of thirty and not earlier in his life if this disturbance has existed since birth. I think Ranney and also Stevens considers it a congenital anatomical anomaly, and I am inclined to think so too, because then only can we account for the benefit of the operation. That it may remain latent and not cause trouble is not such an extraordinary fact if we consider similar conditions, for instance in hypermetropia. We certainly know that most eyes are hypermetropic in children, and that it is not a condition developed in after life, still we find a great many who go through life without experiencing the slightest trouble from their hypermetropia, not having any uncomfortable feeling in the eye, to say nothing of more distant disturbances of the nervous system, but at any time during life there may something occur which has the effect upon the nervous system of weakening or reducing the reserve nerve forces, and then any extra demand upon the nervous energy will become a source of trouble.

Dr. Archibald Church: I am very glad to have heard the remarks of the last gentleman, because they are eminently timely and extremely reasonable. It is undoubtedly the tendency of specialists to magnify the importance of their specialty. I think, as the gentleman has said, that these peripheral irritations are to be considered more as exciting than predisposing causes of the diseases in question. While the ocular trouble may be congenital, and probably almost always is, still we find cases in which patients present abnormalities of the ocular apparatus and never furnish any severe symptoms of nervous disturbance. Given two patients of equal ocular defect and of different predisposition to trouble of the nervous organization and the one who is more disposed to overthrow in this direction will be it is clear, more readily acted upon by the irritation furnished and maintained by the eye. There are a great many peripheral irritations. Sayre claimed phimosis to produce almost everything in the range of nervous disease, and yet we all know that to be an exceedingly broad statement and a position which is untenable. The points the gentleman made in regard to ovarian and urethral irritation are well known. It is impossible in any case to say that the irritation is always to be looked for in the eye and there to be found. The field of peripheral irritation is much broader. It is possible that in a great many cases that have been reported as due to peripheral irritation hysteria has been confounded with epilepsy, and cases of chorea reported cured by treatment of the ocular muscles, the treatment extending over four years; three years or even two years, might through self-limitation have gotten well if not treated at all. So this matter demands the most judicial consideration and every case which is to be reported as a neurosis depending on peripheral irritation, should be carefully weighed before it is placed in the category of this class of diseases and a cure claimed for it by and through local measures.

Dr. Ludvig Hektoen exhibited a specimen of *Fusiform Aneurism of Thoracic Aorta; Rupture into Posterior Mediastinum; Secondary Rupture into the Stomach; the Blood Dissecting Its Way Along the Oesophagus.*

Mr. President, Ladies and Gentlemen: The specimen which I have the pleasure to show you was removed from a man, aged 40, who died a few hours after his admission to the Cook County Hospital, and before any clinical history was obtained.

The specimen shows, briefly, a fusiform aneurism of the thoracic aorta, commencing at the end of the arch of the aorta and extending downward about two inches. It produced, by pressure, cavities in the anterior parts of the bodies of the seventh and eighth dorsal vertebræ and, corresponding to these cavities, the wall of the aueurism shows irregular perforations. In the right antero-lateral segment of the aneurismal sac is another perforation through which hæmorrhage has taken place in the mediastinum. The subsequent course taken by this hæmorrhage is unique. As you see, it has passed downward along the œsophagus, which is surrounded by a massive blood clot infiltrated into the tissues around it; then the blood made its way through the œsophageal foramen in the diaphragm, and dissected along between the peritoneal and the muscular layers of the diaphragm, and also between the coats of the stomach down beyond the middle of the greater curvature. Just below the junction of the œsophageal with the gastric mucous membrane is a small opening, 3 millimetres in diameter, in the mucous coat of the stomach, and at the autopsy the stomach and large and small intestines were found full of clotted blood.

As you see, the cut surface of the stomach wall shows layers of blood between its different coats, and it is also many times thicker here than near the pylorus to which the blood has not reached. Undoubtedly the hœmorrhage into the mediastinum took place some time before the immediately fatal rupture into the stomach, because the clots near the aneurism are firmer and lighter in color than the clots near the stomach.

Dr. Karl Sandberg exhibited a specimen of *Extra-Uterine Pregnancy.*

The patient entered the County Hospital on the 23d of last month in a very miserable condition, very much emaciated and cachectic, with a temperature ranging from 100° to 101½°, pulse 110 to 120. She came in with a history of a miscarriage seven weeks before, at which she had been attended by some physician who, she stated, had used instruments. She thought her pregnancy had been advanced about two months at the time the miscarriage occurred. Since that time she had been confined to bed.

On examination there was found a tumor occupying the lower left part of the abdomen; a tumor of an ovoid shape, with a long diameter of about five inches and a short diameter of about three inches. It was attached to the uterus on the left side, the uterus being pushed over toward the right side. The uterus was about normal in size. The tumor was somewhat firm, but semi-fluctuating. It seemed evident that the patient could not recover unless something more heroic was done than had been tried before, and, consequently, the next day was set for a laparotomy, under the diagnosis of a pelvic abscess. On opening the abdomen the omentum was found adherent all

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along the pelvic brim, and there was quite a little difficulty in separating the adhesion. After this had been done the tumor appeared covered with adherent intestines in all directions, and a small space had to be cleared of adhesions in order to make room for the introduction of a trocar with the expectation of emptying out some pus. No pus appearing, a diagnosis of extra-uterine pregnancy was made at once and more of the adhering intestines cleared away. During this work the cavity ruptured and a small amount of serous fluid escaped and afterward some thick, dark-colored blood. The rupture was rapidly enlarged by the fingers and the cavity emptied of its contents, which you will find to be a fœtus, which at the time of removal was pretty nearly four inches long, the placenta and coagulated blood. There was quite free hemorrhage, as well from the separated adhesions, as from the inside of the sac, but it was efficiently controlled by packing of the sac and clamping of the broad ligament on both sides through the vagina by forceps. After this it was further tried to separate the adhesions and possibly make out a pedicle, but it was found that the connection of the uterus was very broad and very thick, and furthermore, that the adhesions could not be separated posteriorly and toward the left side; here the wall of the sac could not be separated from the intestines; in fact, the intestines formed a part of the wall of the sac; consequently, total extirpation had to be given up and the sac stitched to the abdominal wall. The abdominal cavity, as well as the sac, was flushed with hot water and the cavity packed with iodoform gauze. The patient did as well as could be expected for a day or two, but she gradually grew worse and died on the fifth day from sepsis in the sac and septic peritonitis around it. The iodoform gauze was changed once a day and the cavity irrigated; that is, after the second day; it was not changed the first day; the outside dressing was saturated with serum and was changed the first day, and on the second day the dressing was changed and the iodoform gauze taken out and the cavity irrigated with a solution of bichloride 1 to 5,000, and this was done every day afterward, the last two days twice.

I think I am excusable for not making a diagnosis in this case, but the mistake I made in the operation was my attempt to remove the whole sac. I should only have cleared the adhesions away enough to make an opening into the sac, emptied it and stitched it to the wall without touching any more adhesions. Another mistake I made, I think, was in packing it with iodoform gauze and trying to treat it antiseptically afterward. I think if I had followed Tait's example and introduced a glass drainage tube, and tried to keep it as dry as possible, the result might perhaps have been better.

Now when I turn to the specimen, the question is, what is it—what kind of an extra-uterine pregnancy? Tait divides them into three classes:

First, the ovarian, which he deems possible, but at the same time it has never been proven, he has never seen one.

Second, pregnancy in the free part of the fallopian tube; and

Third, pregnancy in the uterine part of the fallopian tube.

Of course this is no pregnancy in the uterine part of the fallopian tube, that can be seen at once, because the uterus is not directly interested. It does not seem to be an ovarian pregnancy because we find the ovary well defined in the anterior wall of the sac. Dr. Hektoen, the pathologist at Cook County Hospital, has been able to trace the tube from the uterus all along the anterior wall of the sac to its ending in the fimbriated extremity, and it is very narrow, all the way except a short distance right in the middle where there is an expansion that forms a part of the wall of the sac. This seems to indicate that it is a case of pregnancy of the fallopian tube that has ruptured. These cases rupture either into the peritoneal cavity, or into the broad ligament. Ruptures into the peritoneal capity as a rule give very alarming symptoms caused by the homorrhage, and unless by abdominal section there is removal of the tube they are generally fatal. Tait states that they are all fatal either primarily by hemorrhage or secondarily by suppuration of the sac and peritonitis. When an extra-urine pregnancy ruptures into the broad ligament of course there will be some hæmorrhage connected with it, and this will dissect up the peritoneum either anteriorly or posteriorly. I should be inclined to consider this a pregnancy that had ruptured into the broad ligament.

It seems in this case to have dissected up posteriorly because the rectum forms a part of the posterior wall of the sac, and there is no posterior cul-de-sac, the rectum is right back of the uterus, there is no peritoneal space back of the uterus between the uterus and rectum. It seems to have lifted the peritoneum up and placed the rectum in close connection with the uterus.

Now what should speak against that is, that we find the ovary in the anterior wall lower down and forward than the fallopian tube, and I must admit that I cannot explain that, when the rupture should be between the layers of the broad ligament. It might be possible that this position of the ovary could be explained by the lifting up and displacement of the peritoneum, or there is a possibility of its having ruptured into the peritoneal cavity at first and forming adhesions all around and pregnancy going on until the time of operation. When we look at the history of the two months' pregnancy that was interrupted by a miscarriage, as she says, we may suppose that at the time she thought she miscarried the tube ruptured, and after that the pregnancy went on until the fœtus reached the size that it had at the time of the removal, which I should say was about middle of the fourth month. At the time of removal the fœtus had been dead some time; I could not say how long—it did not seem very long—but certainly for some days. I think the specimen deserves a little closer examination than I have been able to give it so far, to make certain whether it is a case of rupture into the broad ligament or the peritoneal cavity.

Dr. Ludwig Hektoen: The only additional feature in the specimen I would like to call attention to, is the fact that the corpus luteum is situated in the right ovary instead of the left as it ought to be, the pregnancy occurring in some structure on the left side of the uterus. This fact would point to what is known as migration of the ovum taking place either externally behind the uterus, or directly through the uterus from the right into the left fallopian tube. No corpus luteum can be found in the left ovary.

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CHICAGO, February 17th, 1890.

The President, A. E. Hoadley, M. D., in the Chair.

Dr. A. Reeves Jackson read a paper on *A Further Contribution to the use of the Intra-Uterine Stem in the Treatment of Flexions—With a Description of a New Instrument.*

When we consider that the most diverse views are held and promulgated by authors concerning the causation, pathology and therapeutics of uterine flexions, it is not surprising that a medical practitioner finds himself in doubt as to the better method to adopt when confronted with a given case of this very frequent disorder. From different quarters he is advised with equal earnestness to cut, or stretch, or straighten. To my mind this great difference of opinion and teaching ought not to exist; and in order to avoid the charge of being dogmatic I shall present some reasons why I no longer feel any hesitation in adopting and advising a certain method of treatment in any case of flexion of tne uterus in which treatment of the deformity is necessary and proper.

The questions of etiology and pathology I do not purpose discussing at all, for with the provisions which I have stated they do not determine either the process or means of cure.

I deem it needful in the outset to say a few words which may possibly be considered rather elementary when spoken to a learned society such as I am now addressing. It is evident, however, from passages which frequently appear in the current literature of this subject that a proper distinction is not always made between flexions and displacements of the uterus, the terms being used as though they were synonymous; and until this fogginess shall be dissipated there can be no clearness of understanding about the indications or methods of treatment. So, too, the relations which exist between inflammatory diseases of the pelvic structures and uterine flexions must be distinctly kept in view. Let it be understood, then, that a flexion and a displacement of the uterus do not mean the same thing: the one implies a change of shape, the other a change of place; the one involves a necessary alteration of structure, the other only a change of position. The two conditions may be complicated, certainly, but their co-existence is not at all essential. Likewise, either of these conditions may be accompanied by inflammation of the uterus or neighboring organs, but this too is not necessary. From these propositions I deduce the corallary that, when a flexed uterus is at the same time anteverted, retroverted, or prolapsed, a removal of the flexion will not rectify the malposition; and, conversely, a restoration of the misplaced organ will not change its shape. Equally true is it that when a flexion of the uterus is associated with pelvic inflammation, whether as cause or effect, the successful treatment of the one does not imply a cure or even an amelioration of the other.

If the symptoms present in a given case of flexion be not due to the deformity, but to some complicating condition (congestion, endometritis, parametritis), the latter ought not only to be the chief subject of treatment, but its presence would usually be a contra-indication to the use of mechanical means for the correction of the distortion. Further, in such a case, if symptoms of obstructive dysmenorrhœa did not persist after the removal of inflammatory signs, then no treatment of the flexion as such would be necessary at all.

In the treatment of uterine flexions there are three competing methods—incision, dilatation, and the intra-uterine stem pessary.

The first of these does not cure, or even aim to cure the flexion. Splitting the cervical wall forward or backward gives relief sometimes by permitting the outflow of menstrual fluid through an artificially shortened and straightened channel. The passage-way is partially at least a vicarious one, and is only efficient so long as the mutilation of the organ remains.

A better method than this is dilatation, especially when done rapidly. But it needs to be effected under anæsthesia, is seldom permanent in its results, and does not insure the subsequent restoration of symmetry in the uterine walls as is done by the use of the intra-uterine stem.

Indeed, after a long experience with all of these methods, I have come to feel that there is but one thing to do when a womb is pathologically bent to a degree sufficient to produce dysmenorrhœa—the criterion of needed treatment—and that thing is to straighten the deformed organ. And the better and safer, and more permanent means of doing this is by the use of the intra-uterine pessary.

This instrument has fallen into disrepute in the minds of some persons, chiefly I believe, through its unskillful, careless, or irrational emyloyment. Such fate may come to any remedy which is not used with due caution and discrimination. Every flexed uterus ought not to be straightened; further, there are some flexed uteri which, owing to surrounding and accompanying conditions, cannot be straightened. But for those which can be, and those which ought to be rectified, I do not know of any method which is so efficient, and at the same time so free from danger, as that by the stem pessary.

Harmful results have doubtless followed unwise attempts to accomplish cures too rapidly. A dense, rigid uterus, bent like a retort, the deformity of many years' duration, cannot at once be made pliant and symmetrical. The degree of force necessary to straighten a uterus when in this condition would be as great as that required to bend a straight one, and if successfully exerted in either case would probably cause structural injury. Yet in just such cases of chronic flexion a stiff, unyielding stem has been forced into the bent organ, straightening it, doubtless, but at the great risk of giving rise to metritis or some other form of pelvic inflammation. Surely, such procedures invited the disasters which sometimes followed, and they violated the most essential principle which underlies this method of treatment, namely, slow progress. A chronically flexed uterus should be coaxed, not forced, into normal shape and symmetry.

The details of the method which I employ are as follows: Commencing the treatment soon after the termination of a menstrual period, I endeavor to pass through the cervical canal a flexible, olive-tipped bougie to the fundus of the uterus, thus determining the depth and calibre of the cavity. If the walls of the organ are very firm at the site of the flexion it may be necessary, in order to facilitate this manœuvre, to seize the lip of the uterus with a vulsellum and

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thus steady and straighten the organ somewhat. Usually only a very small bougie can be used at first, but larger and larger ones are successively passed, each being allowed to remain in position two or three minutes, the whole process occupying from ten to fifteen minutes. According to the amount of irritation or pain produced, this is repeated every two or three days and until pain is no longer manifested. This is preliminary, and is for the purpose of testing the tolerance of the uterus. When pain is no longer caused by the presence of the bougie, it may be considered safe to introduce a stem. This should be of small diameter, very flexible, and a half inch shorter than the uterine canal. Its introduction should be followed by a rest of not less than twenty-four hours in bed. If, at the end of that time, there occurs no evidence of threatened inflammation, the patient may be permitted to rise and walk about her room. But if, on the other hand, inflammatory symptoms should appear, and should persist in spite of rest and a prolonged hot viginal douche, the stem ought to be promptly removed for a few days until the symptoms pass away, when it may be again placed.

One object which I have in bringing forward this subject just now is to present for your consideration a new form of stem pessary which possesses some very obvious points of superiority over any similar instrument that I have seen.

It is made from hard rubber tubing, is spiral in form, the further extremity being closed, and the proximal end furnished with a flange or guard to prevent the instrument from entering too far into the uterine cavity. It is elastic and flexible, both laterally and longitudinally. It may be introduced with the greatest facility after proper dilatation of the canal. It provides in the most admirable manner for constant drainage, a matter of the utmost importance in many cases of endometritis. So far as I am able to judge what such an appliance ought to be, and with an experience of its actual employment limited thus far to only three cases, I confidently recommend it as greatly superior to any device hitherto employed for its purpose.

I present below a table which comprises the details of seventy-four cases of flexion of the uterus treated with the intra-uterine stem, and shows the ages and social condition of the patients, the number of children borne by them, the direction of the flexion, and the result of the treatment so far as known.

TABLE OF SEVENTY-FOUR CASES OF FLEXION OF THE UTERUS TREATED BY THE INTRA-UTERINE STEM.

No.	Age.	Social Condition.	Direction of Flexion.	Child'n.	Result.	Remarks.
1	39	Married.	Retroflexion.	6	Unknown.	
2	27	"	Anteflexion.	..	"	
3	29	"	Retroflexion.	3	"	
4	30	"	Anteflexion.	..	Cure.	Pregnancy followed; child at term.
5	25	"	"	..	"	Became pregnant while wearing Chambers' stem; child born at term
6	29	"	Retroflexion.	..	"	
7	20	"	Anteflexion.	1	"	
8	21	Single.	"	..	"	Subsequently married and bore two children.
9	28	Married.	Retroflexion.	..	Unknown.	
10	19	Single.	"	..	"	
11	23	Married.	Retroflexion.	..	Unknown	
12	28	"	"	..	Cure.	
13	30	"	"	..	"	Pregnancy followed twice; children born at term.
14	21	Single.	Anteflexion.	..	"	
15	19	"	"	..	"	
16	25	Married.	"	1	"	
17	29	Single.	"	..	Unknown	
18	24	Married.	"	..	Cure.	
19	27	"	"	..	"	
20	28	"	"	..	"	
21	25	"	"	..	"	Chamber's pessary improperly retained continuously twenty months without discomfor
22	26	"	"	..	Unknown.	
23	32	"	"	..	"	
24	24	Single.	"	..	Cure.	
25	28	Married.	Retroflexion.	..	"	
26	32	Single.	Anteflexion.	..	Improved.	
27	21	"	"	..	Cure.	
28	27	"	"	..	Improved.	
29	..	"	Retroflexion.	..	Cure.	
30	19	"	Anteflexion.	..	"	Subsequently married and bore children.
31	20	Married.	"	..	Unknown.	
32	31	"	"	..	Cure.	
33	24	"	Retroflexion.	1	Improved.	
34	32	"	Anteflexion.	..	Unknown.	
35	19	"	"	..	"	
36	22	"	"	..	Improved.	
37	20	"	"	..	Unknown.	
38	26	"	"	..	Cure.	Afterward married and bore one child.
39	28	"	"	..	"	
40	21	Single	"	..	"	
41	36	Married	"	..	"	
42	30	"	"	..	"	Became pregnant in one month after stem was removed.
43	27	"	Retroflexion.	2	Unknown.	
44	26	Single.	Anteflexion.	..	Cure.	
45	35	"	Retroflexion.	..	"	
46	22	"	Anteflexion.	..	Unknown.	
47	20	"	"	..	Cure.	
48	24	Married.	"	..	"	Had two children subsequently.
49	31	"	"	..	"	
50	37	"	"	..	"	
51	25	Single.	Anteflexion.	..	Cure.	
52	21	Married.	Retroflexion.	1	Unknown.	
53	25	Single.	Anteflexion.	..	"	
54	27	Married.	Retroflexion.	..	Cure.	
55	23	"	Anteflexion.	..	"	Married subsequently and became pregnant
56	33	"	"	..	Unknown.	
57	36	"	Retroflexion.	1	Cure.	
58	23	Single.	Anteflexion.	..	Unknown.	
59	30	Married.	"	..	Cure.	
60	34	"	"	..	Unknown.	
61	20	Single.	"	..	Cure.	
62	28	Married.	Retroflexion.	..	"	
63	24	"	Anteflexion.	..	"	
64	20	Single.	"	..	"	
65	27	"	"	..	Improved.	
66	31	Married.	Retroflexion.	1	Cured.	Subsequent pregnancy and miscarriage at five months.
67	19	Single.	Anteflexion.	..	Cure.	Dysmenorrhœa marked; has had four periods without pain; still wearing soft stem.
68	22	"	"	..	Cure?	
69	23	Married.	"	..	Unknown.	The anteflexion was complicated with retroversion.
70	23	Single.	Retroflexion.	..	Cure.	
71	26	Married.	Anteflexion.	..	"	
72	28	"	Retroflexion.	..	"	
73	23	Single.	Anteflexion.	..	"	
74	19	"	"	..	"	

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Of the seventy-four cases, forty-six occurred in married, and twenty-eight in unmarried women. Nine of the former had borne children; the other thirty were sterile. Of the latter, eight were subsequently fruitful. A cure of the flexion occurred in forty-eight cases; five were improved and relieved in some degree of dysmenorrhœa; in twenty-one the result is unknown. The ages of the patients ranged from 19 to 39 years. The uterus was anteflexed in fifty-seven, and retroflexed in seventeen.

Dr. C. E. Webster: I would like to inquire if there would be any advantage in reversing the direction of the spirals? If the spirals used are always made by a right hand screw, or if a left hand spiral has been tried.

Dr. Jackson: In reply I will have to say that I have not any knowledge as to whether the screw has been left-handed or right-handed. I imagine that it will not make any difference. It is not screwed in, but simply put by passing through the canal an ordinary blunt probe. I use for that purpose an ordinary uterine probe—the small instrument which passes in readily and is flexible.

Dr. E. Fletcher Ingals read a paper on *Chronic Rheumatic Sore Throat.*

Synonym: Chronic Rheumatic Laryngitis.

Definition: This is a painful affection of the throat, chronic in character but varying much from time to time in severity, and attended by only slight physical changes in the parts involved. It usually affects the larynx, and therefore it has been described as rheumatic laryngitis; still, in many cases, it involves the fauces, the hyoid bone and possibly the trachea, and it sometimes does this without involving the larynx at all; therefore the term chronic rheumatic sore throat is preferable. It is comparatively frequent and has doubtless existed from time immemorial, but I have been unable to find any description of it prior to that which I gave at the Ninth International Medical Congress, held in Washington in the fall of 1887. The affection occurs mainly during the spring and fall months of the year, but we will also observe it during the winter, and there are occasional cases in which it continues through the summer months. It is more frequent in men than in women. All the cases I have seen have been in adults from twenty to sixty years of age. It occurs among all classes with the same impartiality as rheumatism of other tissues.

Anatomical and Pathological Characteristics: There are no anatomical characteristics, but usually there is slight congestion, circumscribed in character, but changeable.

Etiology: It is due to the same causes as muscular or articular rheumatism.

Symptomatology: It comes on insidiously in many cases, but in others suddenly; usually, however, the patient will have been complaining for months before he applies to the laryngologist for relief. Most of the patients who have come to me have previously consulted several physicians and have received almost as many different diagnoses, but all have feared either tuberculosis, syphilis or cancer—most of them have a fixed dread that they are suffering from cancer. The general health is not impaired. The patient complains simply of a localized pain, which is more frequently than otherwise referred to the cornu of the hyoid bone, and I have observed it more often on the right than on the left side. Next in frequency it is felt in the larynx, generally upon one side only. It may be felt, however, in the trachea, the tonsils, and sometimes in the side of the base of the tongue. This pain is increased by pressure in nearly all cases, perhaps in all, and it may be increased by phonation or deglutition, but often it completely disappears while the patient is eating. In any case it is liable to shift its position from time to time, though frequently it is persistent for a long time in one locality. Sometimes, instead of an actual pain, the person will complain simply of a sensation of fullness or swelling of the part, or a feeling of dryness, itching or burning; or it may simply be a sensation of discomfort which they cannot well describe. Usually the voice is not affected, but it is common for these patients to complain of fatigue after using it a short time. We find no constitutional symptoms. There is no fever, and the pulse is not quickened excepting from alarm. Usually there is no cough, but in some cases, especially where the larynx is involved, a hacking and annoying cough is a frequent symptom. The digestive organs may act perfectly, but ordinarily we find the tongue more or less covered with a whitish or yellowish-white coating, and although the appetite is usually good, the patient is often troubled with eructations of gas from the stomach and with flatus. The bowels are apt to be constipated. Upon laryngoscopic examination we may find localized congestion confined generally to a small spot in the region of the pain, and there is sometimes slight swelling. We find, however, that the congestion diminishes or disappears, or changes to other localities from time to time; therefore, there is nothing characteristic in the appearance of the parts.

Diagnosis: The affection is liable to be mistaken for neuralgia, for enlarged glands at the base of the tongue, for enlarged veins, for chronic, follicular tonsilitis or glossitis, for syphilitic or tubercular sore throat, for tobacco sore throat, or for cancer. The essential points in the diagnosis are the uncomfortable sensations or pain, which change usually with the changes in the weather, a rheumatic diathesis, and the absence of any distinct physical signs.

From varicose veins, enlarged glands at the base of the tongue, and from follicular tonsillitis or glossitis, all of which sometimes present similar symptoms, this is to be diagnosticated by a careful inspection of the parts, by the course of the disease and by the results of treatment. By inspection we may at once ascertain whether the veins or the glands at the base of the tongue are enlarged, but unfortunately we cannot tell whether enlargement of the glands or a varicose condition of the veins is the cause of the patient's symptoms. Some patients have these conditions and yet suffer no inconvenience whatever, while in others they give rise to serious discomfort. Therefore, if we find varicose vains or enlarged glands at the base of the tongue, with evidence of what seems rheumatic pain in this locality, we will have to overcome these conditions before we can exclude them as the cause of the patient's discomfort. If the patient has a rheumatic diathesis, which can be ascertained by inquiry, it is a point in favor of the diagnosis of rheumatic sore throat.

In follicular tonsillitis and glossitis the signs upon inspection are characteristic, and we may usually take it for granted that the symptoms of which the patient

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complains come from these diseases. We might possibly be mistaken in cases of this sort, but if so, the results of treatment would clear up the diagnosis. Sometimes the diagnosis is extremely difficult, but in the majority of cases, having inquired carefully into the history and excluded the affections I have spoken of, we may make an accurate diagnosis.

From Syphilis this affection may be distinguished by the history and physical signs. In the early stage of syphilis and in the secondary and tertiary attacks of the disease there are, in nearly every case, physical signs which are characteristic, which signs never occur in the disease under consideration. There are occasional instances of syphilitic sore throat where the signs are not characteristic, but in these I have never known the patient to complain of the persistent pain or discomfort which characterizes the rheumatic affection, and I have seen no reason for confounding the two diseases.

From tuberculosis we may distinguish this by the absence of the constitutional symptoms in the rheumatic affection, and their great prominence in the tubercular disease; the moderate pain or discomfort in the rheumatic affection and the severe pain in the tubercular disease; by the absence of ulceration in the former, while in the latter we find superficial ulcerations, which in many cases extend over a considerable part of the region in which the patient complains of pain, while in occasional instances there is deep ulceration.

From tobacco sore throat it may be distinguished by the history and the absence of plaques that appear very much as if the surface had been brushed over with nitrate of silver. These are common in tobacco sore throat. However, there are cases of tobacco sore throat in which we find no physical signs, but in these the patient usually complains of a burning sensation in the part that is relieved soon after the tobacco is discontinued. If we find that the patient is a habitual user of tobacco, if stopping its use improves his symptoms at once, and if there are no symptoms of rheumatism in other parts of the body, there will be no difficulty about the diagnosis.

From neuralgia it is often difficult to distinguish the rheumatic sore throat. The presence of slight congestion or swelling is of considerable value in the diagnosis, for in neuralgia there are likely to be none of these local signs. In most cases of rheumatic sore throat pressure increases the pain, while in neuralgia it does not increase it but may relieve it. In rheumatic sore throat changes of the weather from fair or clear to cloudy and damp almost always aggravate the symptoms, while in neuralgia they have but little effect. In neuralgia of the throat it is common for the patients to complain of pain in the after part of the day when they begin to get tired, or after any exertion which makes them fatigued; in rheumatic sore throat the pain may be worse in the morning, and is not particularly increased by fatigue.

From cancer we distinguish it by the physical signs. In all cases of cancer which I have seen there have been distinct physical changes in the part early, with more or less induration, gradually increasing irregular swelling of the part and finally deep ulceration. These things do not occur in rheumatic sore throat. In cancer of the throat the patients are not likely to experience pain for any length of time before some of these physical changes occur; in the rheumatic trouble pain is the essential symptom and the physical changes are not marked.

Prognosis: Unless relieved by treatment, we may expect these cases to continue for several months, or even for years, but there is no danger so far as life is concerned.

Treatment: In treating these cases our first attention should be directed to prophylaxis. With this in view, we must be careful that the patient is well clothed and housed, and that he is careful not to be exposed to undue changes of temperature or to wet or damp atmosphere. Rheumatic patients should always wear either woolen or silk next the body throughout the whole year, light in summer and heavy in winter, and it should be worn both night and day.

They should be careful that all the excretory organs of the body perform their functions properly. They should eat sparingly of such albuminous substances as meat or eggs, and should live largely on vegetables and fruit; the vegetable acids are often advantageous, but whatever is eaten it is especially important that digestion be perfectly performed so that the system not be poisoned by the formation of ptomaines.

For the local treatment of the disease sedative or stimulant applications may be made with almost equal chances of relief. Applications of the tincture of aconite to the painful spot four or five times a day will sometimes give considerable relief. I have frequently found relief from the application of stimulants, as for example, solutions of sulphate of zinc. The application of morphia in solution or in powder, is sometimes a source of much comfort to the patient. I have derived more benefit, I think, from the application of a spray composed of morphia, carbolic acid and tannic acid in glycerine and water, than from anything else. This consists of 4 grains of morphia, 30 grains each of carbolic and tannic acids, and 4 drachms each of glycerine and water. I apply it in full strength, and frequently give it to the patient to be used daily in the form of spray, in a solution of half this strength. In some cases the strong tincture of iodine gives relief; in others the application of a 60-grain solution of nitrate of silver has proved beneficial. These applications do good on the same principle that blisters sometimes relieve a rheumatic joint. The most important part of the treatment is the internal medication. For this purpose salol, the salicylate of sodium, iodide of potassium, guaiac, phytolacca and the oil of gaultheria, may one or all be used at different times with benefit. The salicylate of soda in doses of 7½ to 10 grains four or five timee a day; the oil of gualtheria in doses of 15 minims three or four times a day; the ammoniated tincture of guaiac in doses of a teaspoonful three or four times a day, or the resin of guaiac in lozenges, frequently repeated, are of considerable value. But I have derived the most benefit from the extract of phytolacca and salol, combined with a laxative to keep the bowels free, and sometimes with the iodide of potassium, or with the bromide of potassium for its sedative effects. I give the extract of phytolacca in doses of from 2 to 4 grains, and salol in the same dose, or sometimes in doses of 10 grains. Tincture of bryonia or cimicifuga have been claimed to be valuable remedies in the treatment of rheumatism. I have used them both with apparently slight benefit in some

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instances, but the obstinate cases have done better under the phytolacca and salol with the occasional use of the other remedies already suggested.

I have records of over fifty well-marked cases of this character, observed during the past four or five years, from which I have deduced what I have said in this paper regarding the symptomatology, prognosis and treatment of this disease.

Dr. W. T. Thackery read a paper on *The Artificial Manufacture of Carbonated Water, with Exhibition of Portable Apparatus.*

Mr. President and members of the Society: It is within the province of the progressive physician, not only to attempt the cure of disease, but also to give his attention to the more important item: its prevention.

Medical history is full of instances of noble men in the profession who have sacrificed their lives for the good of their fellows in their endeavors to discover the first germ of disease so that it might be throttled in its incipiency, and other noble men have apparently sacrificed pecuniary interests to the same end in teaching the laity how to avoid many diseases the source of which is known.

The march of prophyllaxis is marked by the many germ destroyers now extant, and the intelligent use of them, not only by the profession, but also by the laity.

Synonyms which were unknown to the physician of a quarter of a century ago, are now familiar household words.

The sewage, plumbing and ventilation of the dwellings of the present generation, all show the mark of the scientific sanitarian.

The water supply of great and small communities is at present a source of much anxiety, and almost as much attention is given to it as is given to the identification and association of certain microbes with certain diseases.

The adverse reports upon this branch of sanitation have led many of the more favored classes in society into the use of waters from the popular springs which are, or are supposed to be, pure at their source, and thousand of gallons of these waters, put up in bottles and other containers, are annually consumed by the people.

To such an extent are these waters used that the sanitarian must perforce give his attention to the question of their purity, and to this end Dr. Reinl, of Germany, and Dr. Minges, of this country, have made examinations and published reports of the same, the former in the *Wiener Medizinische Wochenschrift*, vol. 38, page 749, the latter in the journal of the *American Medical Association*, vol. 13, No. 20, page 691.

Dr. Reinl finds that in the examination of four popular European bottled waters, as follows:

Franzenbader Stephanie Quelle, 152 bacteria to one cc.

Apollinaris, 214 bacteria to one cc.

Geishübler Kõnig Otto Quelle, 1,620 bacteria to one cc.; and from the

Kronsdorfer Kronprinzessin Stephanie Quelle, 2,526 bacteria to one cc.

Referring to the above, Dr. Minges says:

"It has seemed to me more correct to compare the different waters, not by the average of bacteria given by several samples, but by the number of bottles containing more than a certain maximum, and I have, therefore, considered all those bottles contaminated which contained more than 250 micro-organisms to the cubic centimeter."

Dr. Minges continues: "By using the average number of bacteria in making comparisons we would do great injustice to several mineral waters, for example, to the Hathorn, where the average of 28 germs to the cubic centimeter, as shown by the examination of five samples, is raised to almost 70,000 by the addition of a single contaminated bottle, while the Blue Lick shows up fairly well with an average of 1922 germs to the cubic centimeter, although all the bottles are contaminated."

Dr. Minges does not include the idea, however, that many of those contaminated bottles may find their way into the stomachs of patients, and the 70,000 germs to the cubic centimeter be introduced into the economy, while the practically pure bottles may rest upon the shelves of the dealer.

Dr. Minges now gives a tabulated statement of the waters examined by him, and which I reproduce, as follows:

Name of Water.	Number of Bottles Contaminated out of 12.	Cubic Centimeters of CO_2 to the Gallon of Water.	Average No. of Micro-organisms to the Cubic Centimeter.
Arcadian	1	Artificial.	52
Bethesda	1	"	85
Congress	1	392.289.	95
Salutaris	2	Artificial.	59
Geyser	2	454.02.	85
Silurian	2	Artificial.	100
Buffalo Lithia	2	"	100
Rockbridge Alum	2	"	863
Hathorn	2	375.747.	68290
Empire	3	344.669.	1407
White Rock	4	Artificial.	2218
Excelsior	4	250.	8417
Manitou	5	Artificial.	886
Colfax,	10	"	17103
Henk	10	"	25000
Blue Lick	12	"	1922
Columbian	12	272.06.	2973
Bethesda	12	Non-ærated.	3505
Castalian	12	"	40186
Crab Orchard	12	"	150000

It will be seen from this table that every one of the prominent bottled waters examined, whether carbonated or not, is more or less contaminated with bacteria, and a large proportion of them to a sufficient degree as to render them unfit for internal use, indeed Dr. Minges states in his paper, "I know that I run some risk of being considered a bacteriomaniac, but the tendency of the day is to judge of the purity of drinking water more from its bacteriological than from its chemical examination, and I think that most of you will admit that dyspeptics and convalescents, for whom these mineral waters are more especially intended, and whose stomachs are already weakened in their anti-zymotic powers, should not injest more than a certain maximum of bacteria. Besides we must also bear in mind the remote possibility of infection with pathogenic bacteria."

My own experience with this subject is confined to the Hunyadi-Janos mineral water. I have used and observed this water for several years past, and I have found in many bottles, even prior to the removal of

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the original cork, a fungus composed of brownish circular discs, in some samples being equal to about four per cent of the bulk of water. I have not examined this substance microscopically, but I have observed that water in which this fungus had formed would, upon being injested, cause diarrhœa, while the water that was free from this contamination produced only a thorough catharsis.

Is it not reasonable to suppose that among the mass of bacteria found to be existent in the mineral waters in question, that some, or even many, of them are pathogenic in character? and is it not the wiser course to give them the benefit of the doubt?

These questions have been answered affirmatively by Dr. Harold Ernst, of Boston, relative to the sterilization of infants' food for digestive disturbances, and his methods have been followed by Soxlet and others, who claim that it has demonstrated its value by the results produced.

I return to Dr. Minge's paper to give his conclusions, which are of considerable interest:

1. The bacteria in bottled mineral waters are probably not derived from the spring in the majority of cases, but are due to contamination from the bottles and corks, the cleansing methods now in vogue being insufficient to destroy them.

2. Carbonic acid in a bottled mineral water has a powerfully inhibitory influence on the development of germs." "When the proportion of carbonic acid is 350 cubic inches or more to the gallon, the retarding influence of the gas is very great. It is much less when the proportion is only 250 cubic inches to the gallon."

3. "Sulphuretted hydrogen gas, in the proportion contained in mineral waters, probably has some inhibitory influence on the development of germs, but not to the extent which might be *a priori* expected."

4. "As regards freedom from bacterial contamination, most of our native carbonated mineral waters are superior at least to several of the most popular European waters of the same kind."

5. "The non-aerated, so-called, table waters are probably very inferior to ordinary hydrant water."

6. "The strongly saline non-carbonated mineral waters are so badly contaminated as to be wholly unfit for internal administration in the form in which they are at present put up."

7. "In order to bottle at least a non-carbonated mineral water in such a way that it will remain bacteriologically pure for an indefinite period, the bottles should first be boiled or steamed, kept in an inverted position in a place free from dust until cool, then immediately filled and closed with boiled corks."

Granting the fact then, that both carbonated and non-carbonated waters may be and are contaminated with bacteria to such an extent as to render them unfit for internal administration, and with the further possibility of contained pathogenic bacteria which may cause some specific infection, the question naturally presents itself: What method may be adopted, first to avoid the specific, and second the general impurity?

My answer is, that chemistry furnishes us with the constituents of all the mineral waters, so that from the analyses the solid parts can be reconstructed identically in the laboratory, while the water, which can always be obtained pure, may be added at any time or place. Dry, powdered chemicals do not offer conditions favorable to the development or reproduction of germs, and consequently these powders may be kept, under favorable circumstances, indefinitely.

It has been urged by both profession and laity, that the same effects are not to be gained from the use of the artificial product as that which attends the use of the natural water. But these objections only hold good when applied to a visit to the springs—there the environments and regime have as much to do with good results as the water, and unless the regime, at least is applied to the use of the water at home, no good results will follow, no matter how pure it may be or whether it is natural or artificial.

It is useless and absurd to say that Epsom salts will not act as a cathartic because they have been obtained by the chemical union of magnesium and sulphuric acid in the laboratory, rather than from their natural sources, the many mineral springs which contain them.

These powdered chemicals representing the solid parts of the mineral waters may be combined with other chemicals so as to include in the compound a large volume of latent carbonic acid and which will be liberated on the instant that the compound is brought in contact with water, as illustrated in the granular and other effervescing salts now on the market.

Acting upon these facts, I have prepared a series of effervescing powders, representing many of the more popular waters, both European and American. These I have placed in sterilized bottles, closed with sterilized corks and sealed so that, so far as the medicating medium is concerned, there can be no danger from either external or internal contamination.

While the granulated and other effervescent salts offer every advantage for prescription purposes, they are open to some objections when used as substitutes for the bottled mineral waters.

A lack of knowledge or careless disregard of injunction relative to keeping the salt excluded from the atmosphere, is a frequent source of disappointment, for the reason that, being hygroscopic, moisture is absorbed and the carbonic acid liberated and lost.

The violent chemical action taking place in the open glass immediately under the nose is so objectionable to some patients as to preclude the use of this class of remedies.

The solution taking place in an open vessel, a large proportion of the carbonic acid is wasted, that only being retained which is absorbed by the water under the pressure of the atmosphere.

To remove these objections and to make possible the production and preservation of a sparkling, pure and highly-carbonated water at all times and places, I have devised the Gasogen which I now show you, and with which apparatus the various mineral waters may be prepared in a highly-carbonated form, from the artificial powders, almost instantly in a perfectly pure state, and they may be kept so indefinitely, provided, that all the conditions are fulfilled.

I will briefly describe the various parts of the machine and their use.

First, the retort is, as you see, a strong, stoneware, cylindrical jar with a capacity of 270 cubic inches. After being washed in water at 212° F., and dried in an inverted position in a room free from dust, it is to be filled with water which has been boiled and filtered (or otherwise deprived of any contained impurities), to the amount of one gallon; this allows for the

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displacement of the part of the apparatus which I designate as the salt cup.

This is a cup with a capacity of about 24 cubic inches; it is attached to the cap or cover of the retort by means of a wire loop on the cap and passing under the bottom of the cup and confined in place by wire rings.

The cup is to be washed and dried in the same manner as the retort; it is then filled with eight ounces of the powder selected and attached to the cap, which has previously been dipped in boiling water and dried.

Lastly, the cap, which is composed of four parts—first, a rubber stopper, supplemented by a cork made to fit accurately in the neck of the retort, widened at the top so as to cover the top edge of the neck.

2d. A metal plate of the same diameter as the opening in the neck of the retort.

3d. A metal clamp, which is slipped on the neck of the retort through grooves made on either side to receive it, and it is fastened to the retort by giving it a half turn in either direction; in this clamp are two eccentrics, the handles of which are exposed.

4th. A faucet, made of metal and heavily silver-plated, is fastened through the cap, making a compact whole by means of a screw thimble. (It is my intention to have this faucet made from block tin.)

The retort being filled, the salt-cup filled (in this instance with seltzer salt) and attached to the cap, the cap placed in position and the clamp fastened to the retort, the handles in the clamp are now forced down and the retort is thus perfectly sealed. Everything now being in readiness the retort is inverted, the water coming in contact with the powder its solution is effected very rapidly and at the same time 1,000 cubic inches of carbonic acid gas is evolved, and the fact that we draw the water direct, without the intervention of a syphon tube, causes it (the water) to act as a seal, and the gas is all retained without fear of leakage.

The water is now ready for use, and I invite your inspection and criticism.

I thank you for your kind attention.

Dr. Bayard Holmes: I often hear the same argument proposed that is put forth in this paper, viz.: First, that it is dangerous to take bacteria into the stomach; second, that the mineral waters contain bacteria; third, that this is a substitute for mineral water which does not contain bacteria. Now while I admit that it is possible to prepare mineral waters of this kind so that they shall not contain bacteria, I do insist that it is not dangerous to take bacteria into the stomach, even to the number of 250 to the centimeter. We were born with bacteria; in the early ages of man, before he arrived at the stage of being a vertebrate with arms, he was in contact with them, and in every stage of his advance he has been working his way against bacteria. They have been his constant parasites from immemorial ages. He has developed a physiological resistance to the bacteria, but it is no more dangerous for man to take bacteria into his stomach than it is for him to put his hands into a solution of them. The mucous membrane of the respiratory and digestive tracts have developed a resistance which has been perpetuated by natural selection. The only dangerous parasites of man are those which accidentally become so through some defect in this natural armour which man and all other animals have developed. I insist that the argument in this case is entirely false; that it is not dangerous to take the bacteria into the stomach, and that we must devote ourselves more and more to the scientific understanding of the relation of parasites to man, but we cannot argue for or against anything that is in such common use as the mineral waters.

Of course I do not speak against this process, I think it is a good thing, but I denounce the argument as being bad all the way through and dangerous to us in every respect. If I had time I would try to show what our parasites are; I would try to show that the parasites that produce contagious diseases, if they do not grow upon putrefactive matter, the diseases are not particularly destructive to man, and I would try to show (1) that the only destructive diseases are those which are accidentally brought into the system, as anthrax which ordinarily lives in the filth, gets into the hoofs and nose of the sheep and destroys it; (2) that tubercular disease, which lives nowhere except in animals, is comparatively non-destructive disease, and (3) when the parasitism becomes so complicated, as in syphilis, which is confined to the bimana and quadrimana alone, it is still less destructive.

I only insist upon the one point, that while I admire the apparatus and think it is remarkably cheap and an excellent thing to use both in the sick room and elsewhere, I denounce the reasoning as absurd and vicious.

Dr. W. T. Thackeray: It is apparent to my mind that Dr. Holmes did not give very careful attention to the reading of my paper, else he would have observed that I did not claim that bacteria produced anything. I did say that it was reasonable to suppose that in a weak stomach, a patient just recovering from disease, that it might be well that not more than a certain number of bacteria be ingested. The examination of these different mineral waters show that some of them contain as high as 150,000 and 200,000 micro-organisms to the cubic centimeter, and it is also possible that some of these bacteria may be pathogenic. I made no claim that it was so, but I say it is well to give the patient the benefit of the doubt, and not give waters proved to be thus contaminated.

I think the argument in relation to non-carbonated so-called table waters, or heavy saline waters like the Crab Orchard, Friederichschall and Hunyadi waters, hold good. It is certain that some disorganization takes place in the waters and which changes their ordinary character of cathartics to that of irritants, causing diarrhœas.

Items.

From defective sewerage, Los Angeles, Cal., is rapidly becoming unhealthy.

Dr. Phillippe Ricord, of Paris, the great American surgeon, died last month. He was born in Baltimore, in 1800, and began to practice in France, in 1826.

Brown—"You don't look well lately, Robinson." Robinson—"No; I can't sleep at night on account of lung trouble." Brown—"Nonsense; your lungs are all right!" Robinson—"Yes, mine are; the trouble is with the baby's."

Little Johnnie Day lies here,
He neither cries nor frets;
He had just reached his thirteenth year—
Cigarettes. —*Troy Press.*

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Western Medical Reporter.

A Monthly Epitome of Medical Progress.

JOHN E. HARPER, A. M., M. D., EDITOR.

G. FRANK LYDSTON, M. D., ASSOCIATE EDITOR.

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THE EDITOR would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information should be accompanied by the full name and address of the writer, although not necessarily to be published. All communications should be addressed to WESTERN MEDICAL REPORTER, 163 State Street, Chicago.

Some Points in the Treatment of Gonorrhœa.

The early use of astringents in gonorrhœa is advocated by many practitioners. We do not agree with those who advise the use of astringent injections in the early stage of the disease. The effect of astringents is to thicken the mucous membrane upon its surface, and seal up the gonococci in the meshes of the areolar tissue and the deeper portions of the mucous membrane. Aside from this effect, injections in the early stage of the disease are pernicious from their mechanical effect. We believe that they often cause stricture, not because they are used in too powerful solution, but simply because they act mechanically on the inflamed canal. One of the most potent causes of stricture, independent of cases treated by the use of injections, is the passage of urine over certain portions of the canal (normal points of contraction). The entire calibre of the canal is lessened. There is a good deal of friction during the passage of urine, and consequently the epithelium becomes abraded, and a habit of rapid proliferation and removal of epithelium supervenes. It is at these points of extreme friction that granular patches occur, which result in a perpetuation of gleet and a liability to the formation of stricture. Injections very often act in the same way if used frequently.

We do not believe in the practice of passing into the urethra medicated applications in the acute stage of the disease. We have tried soluble bougies, hot water irrigations, and various other things that have been recommended, with but little benefit. We do not believe any antiseptic in combination with an ointment is capable of paralyzing the gonococci, as has been stated. When the surgeon passes an instrument into the canal it carries the discharge into the deeper portions of the urethra, and unless the ointment is sufficiently powerful, he will defeat the very object he aims to secure by his applications.

We have noted objections to the use of irrigation by the recurrent catheter in gonorrhœa. Dr. Palmer, of Louisville, recently wrote an able article on a particular method of treatment of urethritis by irrigation. After reading Dr. Palmer's article on the subject, we tried the method, and immediately had a succession of cases of inflammation of the vesical neck and prostate. A number of cases of epididymitis arose, and seemingly were also due to the manipulations of the canal.

The poison is carried by the catheter into the deeper portions of the canal, and the inflammation extends to the deep urethra by affecting contiguous structures. By any of these mechanical methods a greater number of cases will be affected by complications and become chronic than under ordinary conservative methods of treatment.

The probabilities are that if we treated cases of gonorrhœa as we treat other diseases of like severity and importance as regards serious complications and results, we would have very few cases of stricture, very few cases of abscess and very few cases of epididymitis or bladder troubles secondary to gonorrhœa. If every man with a gonorrhœa went to bed and remained there for two or three weeks, there would not be one-tenth part of the number of strictures which we have now to treat.

The regulation of the diet is a most important feature of treatment of genito-urinary troubles of an inflammatory character. The patient should be instructed to live on bread and milk. This particular dietetic regimen continued for a few days affords more benefit than almost anything else we could give. Large quantities of milk produce alkalinization of the urine, and produce it more effectually than does the administration of drugs during the acute, or, what Van Buren and Keys have termed, the ascending stage of the disease.

When the disease has come to a standstill; when the purulent discharge has begun to diminish, antiseptic injections should be given; the bichloride of mercury is the most reliable remedy we have. It may be used in a solution of half a grain to four ounces of rose water.

There is one very important point with reference to the bichloride of mercury which we will mention. If there is any remedy to which there is a varying susceptibility on the part of the mucous membrane, it is this drug. Some patients using the drug in the strength of one-eighth grain to the ounce may not complain of any immediate effects of the injection, but after its use for a few times will find that urination is painful. Retention from inflammation may occur in a few patients who are using solutions much milder than those which have been found to perfectly agree with others. In using bichloride of mercury, it should be given in a strength of on an average half a grain of the drug to four ounces of rose water and glycerine. In a few days, or perhaps a week, it will be found that the bichloride has lost its beneficial effect. After a few days it will be necessary to substitute astringent injections, and if these are properly and carefully used, it makes no difference what form of astringent is selected.

Matico, hydrastis, etc., are as useful as anything. In the way of minereal astringents the sulpho-carbolate of zinc, glycerine and rose water form a good combination. If the case does not get along well the explanation is not that the injection is improper, or that some other form of astringent would be better, but usually that the patient is carousing with women, drinking or over-exerting himself. Patients are very apt to tell us that an injection does not work well in spite of their good habits, but as a matter of fact they lie in a great many cases.

As regards balsams, we believe that they have decided virtues in the treatment of gonorrhœa. We use at first sandal-wood, subsequently in the later stages of the disease, copaiba and cubebs in the order named. If they are used in this way, they are decidedly efficacious and beneficial.

One point that is worthy of attention is that gonorrhœa is a self-limited disease. The normal duration of gonorrhœa is from three to six or eight weeks. There are exceptionally few cases that recover in three weeks or less. If a case comes to us early for what we suppose to be gonorrhœa, and we cure the disease in a few days, we conclude that the patient did not have a virulent urethritis. When we use the term *gonorrhœa*, we do not speak of it as an entity. By *virulent urethritis* we mean that the poison has arrived at its highest degree of culture and always produces definite results.

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Western Medical Reporter.
A Monthly Epitome of Medical Progress.

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ORIGINAL ARTICLES.

Apparent Cancerous Transformation of Syphiloma of the Tongue—Excision of the Tongue by the Galvano-Cautery.*

BY G. FRANK LYDSTON, M. D., Chicago, Ill.

The possibility of the existence of a combination of syphilis and carcinoma has recently attracted some attention from the profession, and it has been claimed in certain quarters that a transformation of a syphilitic into a cancerous process is possible. The first cases of combined cancer and syphilis were reported by Jonathan Hutchinson, and following him Langenbeck directed attention to this unusual class of cases. Lang, of Vienna, recently exhibited a case of the kind before the "*Medizinisches Doctoren Collegium.*" The patient was a woman who had suffered from syphilis for a protracted period. Scars of former syphilitic processes were present upon the trunk and face, the palate being perforated, and the upper lip having suffered considerable loss of substance. At the time she came under Lang's observation, most of the ulcers were covered with a white scab, the histological examination of which did not reveal any sign of importance from a diagnostic standpoint. About a month later, however, a small, white, indolent ulceration appeared upon the hard palate. A small portion of the involved tissue was excised, and upon microscopical examination by Professor Weichselbaum, was found to be epithelioma. In the course of the discussion Professor Lang stated that he had observed three other cases which were very similar, the development of the carcinoma upon a syphilitic soil being demonstrated in each instance by microscopical examination. The first case, which came under his observation in 1883, had suffered from a characteristic course of syphilis, which included numerous relapses of iritis and gummatous ulcerations upon the face. Under anti-syphilitic measures all of the ulcerations cicatrized, with the exception of one, which became transformed into a cancroid of the skin.

The second case was that of a man, aged forty-six, who had suffered from various syphilitic ulcerations on different parts of the face and body. After anti-syphilitic treatment one ulcer, located beneath the tongue, proved resistant to treatment and became transformed into cancer. In the third case a syphilitic infiltration, located in the lower lip, underwent a relapse at the end of a year and assumed a carcinomatous character.†

It is unfortunate that the profession have not more carefully noted the cases in which carcinoma has developed upon a syphilitic base. There are many cases in which careful study might demonstrate the causal relation of syphilis to malignant disease.

The case which I have had the opportunity of observing, and here recording, was one the progress of which I had been enabled to study for a protracted period, and there can be no possibility of doubt as to the primary condition upon which the malignant disease that eventually destroyed the patient's life was engrafted. In recognizing the transformation of syphilitic processes into cancer, I do not wish to be understood as claiming that the histological elements of syphilis may be transformed into those characteristic of cancer, but that the elements of syphilis having been removed, they leave the tissue so damaged that continued irritation will result in cancerous degeneration. On the other hand a syphilitic process may recur so frequently, and be so obstinate to treatment, that the irritation thereby produced is capable of causing cancer.

It is as yet too soon for us to discuss the question of the existence of special bacilli in syphilis and cancer for the purpose of disproving the possibility of the transformation of the one into the other. It is conceivable that both cancerous and syphilitic deposits may act in the same manner as other irritating processes in the tissues. It is to be presumed that if a cancer were present in the mouth of a syphilitic subject, syphilitic processes would be more apt to develop in the vicinity of the malignant disease than elsewhere. A somewhat similar relation exists between the presence of the syphilitic process and the development of carcinoma. Whether actual transformation can occur or not, it is certain that cancer may develop in tissues which are indubitably affected by a syphilitic process, and that said cancer may go on to destruction of tissue, and finally, of the life of the patient. This may occur without any preliminary change in the physical appearance of the tissues affected by syphilis prior to the development of the cancer. I feel warranted in speaking thus positively from my experience with the case which I am about to relate.

In regard to the bacillus of cancer, it is as yet an unknown quantity. As far as the bacillus of syphilis is concerned, no one has so far been able to positively demonstrate that the supposed bacillus of syphilis is really the specific bacillus. In the words of Dr. N. Senn, "that syphilis is a specific disease cannot be doubted, that it is due to a microbe cannot be doubted. but to establish this positively, experiments must do what Koch did before he announced the specific origin of tuberculosis."

To put the matter of the transformation of syphilis into cancer concisely, I would say that I do not believe that syphilitic cells can possibly be transformed into cancer cells; but I infer that the irritation of the tissues produced by the former may, in the presence of favorable constitutional and local conditions, develop a new process of tissue-building or neoplastic formation which will result in the formation of cancer cells. I have taken the liberty of relating my own case in detail.

Case.—The patient, a man, aged twenty-nine, contracted syphilis at the age of eighteen. He stated that at that time he contracted a hard chancre, which inflamed and caused paraphimosis, which lasted about a month, and left the mucous membrane of the penis in an irritable condition that resulted in the frequent appearance of fissures and ulcerations, some of

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New York *Med. Rec.*, Oct. 26, 1889.

*Read before the Mississippi Valley Medical Association, September 10, 1889.

† Since the above was written Spanton has reported a case of transformation of a syphilitic ulcer of the cervix uteri into epithelioma (*Brit. Med. Journal*, March 15, 1890).

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which were treated by me from time to time after he came under my care. Secondary symptoms appeared about four months after the primary sore, and, according to the description, a pronounced papulo-pustular eruption appeared, and resulted in considerable scarring of the skin. Mucous patches presented themselves in successive groups, and, as the patient expressed it, "were very annoying, especially those upon the tongue." After the secondary period became manifest, the physician in charge of the patient put him upon mercury, a thorough course of which was given for about three months, when he went to the Hot Springs. He remained at the Springs for three months, was rubbed with an enormous amount of mercury, and badly salivated twice. He went home, and at the end of two months eruptions again appeared upon the body, with also larger mucous patches than before, his tongue at this time giving him some considerable trouble by reason of the general soreness of the organ. At this time an old eczema of the hands, which had troubled the patient off and on all his life, broke out, and in combination with the syphilis gave him a great deal of trouble. He again went to the Springs and remained there for eleven weeks, during which time he took mercury internally quite freely. He again went home, and was apparently well for three months, when mucous patches and eruptions broke out, sores appearing at this time upon the penis. About five years after the beginning of the syphilis the patient fell under the care of a physician who again rubbed him freely with mercury, the treatment being continued for about six months. He improved for a time and then quit treatment, as such patients so frequently do; but again got worse and went back to the same physician, and for at least eighteen months took mercury in considerable quantity. He was then advised to go to Mount Clemens, Mich.; he remained there about fifteen months, and while there became entirely well of his eczema, the syphilis, however, never leaving him entirely.

In 1884 the patient consulted me for the first time. He had then unequivocal cerebral syphilis, and tuberculo-squamous syphilides in considerable number were scattered about the forehead, forearms, and thighs, with a few scattered squamæ upon the trunk. Scars of former pustular syphilides were visible upon the forehead, forearms, and legs; the tibæ and sternum were excessively tender, and considerable pain was experienced at night. Cephalalgia was a constant symptom and gave the patient intense suffering. An apparantly gummy ulceration, with several fissures, existed upon the penis, just back of the corona.

The tongue was rough, and coated with a thick, dirty, yellowish-gray fur, with marked dryness in the center and posterior part of the organ. Several tubercular nodules were also observable, one in the center of the tongue, and the others near its base, those upon the right side being especially marked. On inquiry I found that the tobacco and alcohol habits had been persisted in for a greater portion of the time that he had been under treatment and much to my surprise, he informed me that his physicians had not restricted him in the matter of either indulgence. The treatment at this time was very vigorous; cod-liver oil and iron were ordered, on account of the patient's marked debility. The mixed treatment and the iodide of potassium in saturated solution were given, the iodide being run rapidly up to a dose of three hundred grains per diem, and maintained at that point for three week, the disease being completely resistant to treatment until the end of that time. Local applications of the acid nitrate of mercury were made to the tongue from time to time, and with apparent benefit. As soon as the symptoms began to yield to treatment, the dose of the iodide of potassium was diminished to about sixty grains per day, the tonics being meanwhile continued. At the end of three months the patient was free from trouble, with the exception that his tongue was more thickly coated than ever (psoriatic), and the nodules upon its surface were still perceptible. No amount of care and treatment ever caused this condition of the tongue to disappear entirely, and, as the history will show, it subsequently became the source of terrible trouble. The case remained comparatively well until about five months ago, the tongue creating some uneasiness from time to time on account of commencing ulceration of nodules upon its surface, but yielding rapidly to treatment. On each occasion, however, the nodules and furring of the tongue became more prominent, and remained so in spite of treatment, the furring becoming a sort of membranaceous deposit, like wet chamois leather, which reformed as fast as it was removed.

At this time, while at the Hot Springs under the care of Dr. Vaughn, the tongue began to swell, and assumed a threatening appearance; the nodules began to ulcerate, and at one time a severe hemorrhage occurred.

I have not received the complete history from Dr. Vaughn, but suffice it to say that after all means of treatment had been tried for two months without avail, the case was pronounced probably cancerous by the attending physician and several others who saw it in consultation. At this time Dr. Vaughn referred him to me with a view to possible excision. Upon examination I found the tongue filling the mouth and pressing upon the teeth in such a manner that it had become eroded and ulcerated by them. Salivation was profuse; a deep ulcer existed at the center and back part of the organ; the enlargement seemed to be rather more marked upon the right side. The submaxillary glands were slightly enlarged; there were no lesions present upon any part of the body.

Microscopical examination at this time failed to demonstrate the presence of cancer. No further examination of the tissues was made until after the tongue had been excised.

As the patient experienced great difficulty in masticating and swallowing, he was subsisting entirely upon fluid food, and not being very robust primarily, had become greatly emaciated. The treatment instituted was chiefly a tonic one, in conjunction with an alterative mixture containing iodide of sodium and the chloride of gold; milk punches were allowed, and the patient instructed to take as much sweat cream and milk as he could without creating digestive disturbance. Local applications were made of a compound of carbolic acid, iodine, and menthol, in mild strength. Improvement was at first very rapid, and at the end of a week the tongue was nearly reduced to its normal size. In a few days, however, it again enlarged upon the right side, this enlargement being peculiar in that it was limited by the raphe, the tongue being at least double the thickness upon the right side that it was upon the left. The appearance was precisely the same as that pre-

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sented by several cases of acute glossitis that I have seen, and resembled it strongly in the rapidity of its appearance; the increased thickening having come on within twenty-four hours. This condition of the right side of the tongue soon subsided, but was succeeded by enlargement of the tubercular nodules previously mentioned, and by the appearance of several new nodules. These appeared not upon the margin of the tongue but upon its upper surface.

In a few days the left side of the tongue underwent a diffuse enlargement, precisely similar to that which had occurred upon the right, and in exactly the same way subsided, and was succeeded by the development of tubercular nodules. The whole tongue now gradually increased in volume, and became so large that it hung over the edges of the teeth and protruded through spaces left by the extracted teeth. There was little or no pain, and such as there was, was referred by the patient to the "holes" as he expressed it, worn in the tongue by the teeth. As soon as the case began to get worse the chloride of gold, or alterative mixture, was stopped, and the iodide of potassium was again run up to three hundred grains per diem; there seemed to be some improvement, and the drug was stopped for two weeks. At the end of this time it was again begun, as the case had again assumed a threatening aspect, and was now increased to the enormous dose of six hundred grains per diem. I soon became convinced that the iodide had lost its effect, and was producing no result, unless perhaps increasing the swelling of the tongue. Mild inunctions of mercury were tried next, at the suggestion of a professional friend, but they merely served to make the case worse, as had been my experience with his previous troubles.

Punctate cauterization with the galvano-cautery was tried, with some reduction in the size of the tongue. Soon after this, however, sloughing began and destroyed the greater portion of the right side of the organ, the remainder of the tongue being undermined and eroded and the floor of the mouth extensively invaded by the central ulcer, of which mention has already been made. During this time I exhibited the patient to a number of my professional friends, among whom were Drs. Hawley, Hayes, Zeissler and Baxter, all of whom pronounced the trouble syphilitic, agreeing with my own diagnosis.

The case went on from bad to worse, many different plans of treatment being tried without avail. The sloughing continued until the tongue was in such a condition that even if healing had been possible the organ would have been practically useless. The base of the tongue was a foul mass of hyperplastic, ulcerating tissue, the odor and secretion from which were not only offensive to the patient, but were prominent factors in producing the constitutional disturbance. There seemed to be no hope of benefit from either internal or local medication, and in addition, the malignancy of the process appeared to be now established. As the patient was anxious to have something done to remove the foul and stinking mass from his mouth, I proposed excision with the galvano-cautery, an operation to which he readily consented.

Operation.—The operation was performed on July 30, 1888, with the assistance of Drs. P. S. Hayes and W. S. Walker, and Mr. Knight, medical student. The Fleming battery was used, with a platinum wire of moderate size. A preliminary tracheotomy was not performed because of the objections of the patient. Great difficulty was experienced in the operation, on account of the necessity of separating the tongue longitudinally, there being a large mass of ulcerating hyperplastic tissue at the base of the organ which required removal. It was found to be impossible to transfix the base of the tongue transversely with a needle, and at the same time it was necessary to have something as a purchase for the wire. A stout needle with a long double thread, to prevent it being detached and swallowed, was passed obliquely from above downward and forward as far back upon the base of the tongue as was practicable, a long needle-holder being used for this purpose. The wire was slipped over the needle and made to include as much of the base of the tongue as possible. The anterior portion of the tongue was readily included in the loop, as it was separated from the floor of the mouth in such a way that the electrode needle was readily pushed beneath it. A small amount of chloroform was first given, as I had found by previous experience that the patient was extremely resistant to ether. As soon as he was under full anæsthesia, however, ether was substituted for the chloroform and acted satisfactorily. The current was turned on and the operation begun, when to my embarrassment the patient became so asphyxiated that respiration ceased and the pulse at the wrist was hardly perceptible. I immediately detached the wire from the tongue and inverted the patient, my assistants at the same time performing artificial respiration. In about five minutes the patient breathed as naturally as ever, and I was enabled to proceed. The current was again turned on and the tongue about half burned through when the patient again became asphyxiated, apparently by the smoke produced by the burning of the tissues in combination with the accumulation of blood and mucous in the pharynx, there being quite free bleeding from a couple of teeth that were loosened in their sockets in the attempt to pry the jaws open while performing artificial respiration. The inverted position and artificial respiration were again resorted to, but it was fully fifteen minutes before it was considered safe to proceed. The tongue were finally completely excised. About the time the operation was completed the patient again stopped breathing, and a repetition of the previous performance of resuscitation became necessary.

I would not advise an operation of this kind to be performed without a preliminary tracheotomy; I certainly should not want to perform it again myself unless the patient would consent to be tracheotomized. The operation altogether occupied about two hours. The patient, three hours after the operation, was able to get aboard a street-car and ride to the hospital. At the end of a week the eschar produced by the cauterization became detached and left a surface of fairly healthy appearance; the fetor of the breath was improved and the sloughing of the base of the tongue ceased. The floor of the mouth healed nicely and remained in a tolerably healthy condition for several weeks; the submaxillary glands became smaller, and the general condition of the patient improved considerably. About a month after the operation, however, the submaxillary glands again enlarged, becoming larger than ever and quite tender. There was comparatively little pain save a moderate amount of cephalalgia and otalgia. The ulcerative process on the floor of the mouth recurred, but did not progress rapidly nor ulcerate extensively. A small ulceration

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formed upon the right pillar of the fauces. These symptoms practically settled the question of malignancy. Professor I. N. Danforth, having examined the specimens excised, informed me at this time that the case was of a sarcomatous nature, but I inferred from his report that it did not present typical characters. About two months after the operation an abscess formed in the submaxillary glands; this, when opened, gave exit to a thin, sanious fluid. Pain at this time was very severe. At the end of about three months an occasional slight hemorrhage from the mouth occurred. The patient finally died, about four months after the operation, from a sudden hemorrhage occurring during the night.

This unfortunate case is, in many respects, unlike any other that I can find on record. The literature of the subject is very meager. During the course of the disease there were present distinctive features of several forms of glossal affection. During the four years that the patient was under my observation, the tongue presented gummy nodules and ulceration, lingual psoriasis, diffuse syphilomatous deposit, and latterly attacks of subacute glossitis. At various times before coming under my observation—and once since, as shown by the history—mercurial stomatitis occurred, and formed an important feature of the case, particularly I think, as regards the etiology of the process which finally necesitated removal of the tongue. Prior to extensive destruction of the organ, these various conditions merged into a general hypertrophy, the tongue becoming extremely indurated. These various features must be taken into consideration in studying the case.

Macroglossa, or hypertrophy of the tongue, of a simple character is very rarely seen, and few cases are on record of congenital origin. According to the published researches of Fairlie Clark,* hypertrophy of the tongue occurring later in life may arise "spontaneously" (?), or from wounds, mercurial salivation, or as a consequence of diffuse inflammation from scarlet and other forms of fever. I will also add to these causes constitutional syphilis.

Attrition against the teeth in these cases of macroglossa produces from time to time attacks of acute or subacute glossittis, each of which leaves the tongue more enlarged than before (König)[1]. This has been a prominent feature of the case at present under consideration. The best authorities have recommended for the cases of simple macroglossa the use of astringent solutions in combination with compression. It is obvious that the latter measure is not applicable to cases like my own, whether malignant or not, in which necrosis of tissue is such a prominent feature. Clark reports forty-three cases, nine of which were cured by compression and astringents. In some cases excision of portions of the tongue has been performed with a successful result. This measure was not to be thought of in the case under consideration.

The causes which operated in the production of the lamentable condition of my case were, in my estimation, several. In the first place, it will be conceded that the numerous attacks of glossitis and stomatitis necessarily left the tongue in a more or less damaged condition, and caused a chronic condition of irratability which favored a deposition of syphilomatous material in the organ at any time when the constitutional disease should become active. That the prolonged and injudicious use of mercury, independent of salivation, is prone to induce inflammatory and ulcerative processes of the mouth and the structures contained in its cavity I firmly believe. Authors are united in the view that the excessive use of murcury is a frequent cause of glossitis. It is probable that the excessive, although necessary, use of iodide of potassium still further enhanced the morbid condition of the tongue. It is reasonable to suppose that such might be the case when we take into consideration the fact that the salivary glands are heavily taxed in the elimination of iodide of potassium as well as of murcury.

The continued use of alcohol and tobacco, in combination with the irritation produced by diseased teeth, completed a chain of circumstances which, in combination with the syphilitic cachexia, favored the development of the morbid process in the tongue.

The condition known as ichthyosis or psoriasis of the tongue is due to the same causes as generalized glossitis, and is really part and parcel of that process in which the inflammation is localized upon the surface of the mucous membrane.

According to Dr. Hullin,[2] ichthyosis of the tongue consists essentially in hypertrophy of the epithelial and papillary elements of the mucous membrane. The relation of ichthyosis or psoriasis of the tongue to syphilis and cancer is very important, and all authorities unite in acknowledging its relation to syphilis, although it may occur in non-syphilitics. In appearance it resembles, in some cases, a deposition of wet chamois leather upon the surface of the tongue, as described in my case, which rapidly reforms after removal. In other instances it resembles a thin layer or film of coagulated albumen, and in these cases each successive deposit is more dense and adherent than the preceding. The condition is prone to develop epithelioma, as Weir[3] has shown most conclusively by the history of sixty-eight cases, of which number, thirty-five eventually developed epithelioma.

Hutchinson has also advanced the opinion that cases of syphilitic disease of the tongue are especially prone to develop epithelioma later in life.

That a condition similar to that of my case may undergo a transition into epithelioma or malignant sarcoma seems plausible, and such a transition I believe to have occurred in this instance. The presence of epithelioma, or its subsequent development in such a case, would be no argument, in my estimation, against the accuracy of the previous diagnosis of syphiloma, inasmuch as it is conceded by the best authorities that such processes are prone to undergo a malignant transition. The course of this case and its history are widely different from the ordinary clinical features of epithelioma of the tongue. Epithelioma of the tongue, beginning four years ago, would not have lasted as long as this condition. The average duration in cancer is less than two years. The age of the patient would warrant a doubt as to the existence of carcinoma, cases under forty years of age being very rare.

There was at no time in the history of the case a cancerous cachexia, and the constitutional condition

*Diseases of the Tongue.

[1] Lehrbuch der specielen Chirurgie, 1878.

[2] Clinical Society Reports, vol. ii., p. 1.

[3] New York Medical Journal, March 18, 1875.

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fluctuated quite markedly, depending upon the amount of nourishment that the patient was able to take. Several weeks after the operation he was in better flesh than at any time for two months previous.

The attacks of glossitis which occurred from time to time necessarily modified the clinical aspects of the case, and obscured the distinctive points in differential diagnosis. There are some features, however, that deserve mentioning in contradistinction to those of ordinary cases of cancer. The enlargement of the tongue was general, and the sloughing began at several points, this being decidedly unlike cancer, which is usually localized at the beginning, invades successive areas of the tongue, and does not attack more than one point, from which it gradually progresses. The induration in cancer extends with the ulceration, while in this case it became general before the ulceration had advanced to any extent. The ulceration, instead of beginning underneath the tongue or at the border of the organ at some particular point, as is the case in cancer, first attacked the tubercular nodules previously described upon the upper surface of the tongue near its center and base. One peculiar feature of the process was a clean dissection of one-half of the organ, the process being temporarily limited at the raphe; a line of progression that is very noticeable in syphilitic conditions, and which has given rise in my own mind to the belief that some of the late lesions of syphilis are of a trophic character, and the result of a syphilitic impression upon the sympathetic nervous system—a point upon which I will expatiate more fully in a subsequent paper.

There was a marked improvement, from time to time, in this case. Indeed, there were times when it seemed as though the disease was under control, and recovery probable. In this respect there was a marked contrast with the classical course of cancer, in which the disease grows progressively worse until its close. After the operation the parts assumed a healthy appearance, the tendency to bleeding was entirely checked temporarily, the disagreeable odor disappeared, and the patient assumed a better color than before.

In ordinary cancer the tongue becomes absolutely immovable, while in this case there was some mobility at all times, and considerable during the periods of temporary improvement. The tongue was left harder and more indurated after each exacerbation of glossitis. The absence of pain until late in the case was quite remarkable, and presented a marked contrast to the course of cancer, in which the pain is usually very severe. The persistent enlargement of the lymphatic glands at the angle of the jaw was the most suspicious symptom in the case, as indicative of possible or probable malignancy, yet I think too much stress has been laid upon this feature of glossal troubles as pathognomic of cancer; for, although late syphilitic lesions do not produce enlargement of the glands *per se*, the septic process which results from necrosis of the tissues, and the decomposition of food which may adhere to the uneven surfaces of ulcerations upon the mucous membrane, may give rise to irritation of the neighboring glands. Thus it seems that it is by no means necessary that cancer should exist in order that lymphatic glandular reaction may be produced.

In view of the great danger of processes similar to those which so long existed in my case, resulting in the development of malignant disease, it would seem that we would be justified in adopting some radical measure. Had I to go through with a similar case again, I should profit by my experience, and destroy the tubercular nodules, as well as the thickened mucous membrane upon the surface of the tongue with the actual cautery. There is, of course, no means of proving the success of this line of treatment, and I may never have an opportunity to put it into practice, on account of the rarity of such cases; but I believe that had it been done in this instance, the malignant process might never have developed. No remedy short of actual destruction would seem likely to be beneficial to such conditions. The only remedy which ever seemed to effect the ichthyosis of the tongue in this case was a saturated solution of salicylic acid, which seemed to check the progress of the disease and improve the condition of the tongue for some little time when it finally lost its power.

The precise period at which a malignant was substituted for a syphilitic process would be hard to determine. I am by no means convinced that the diagnosis of syphilis, made several months before the operation of excision of the tongue, was incorrect. The course of the case was certainly unique. Whether the time of the transition into a malignant process could have been determined by frequent microscopical examinations is questionable. Such microscopical examinations of the case as were made were at the hands of competent microscopists; but I am free to say that the results were hardly satisfactory, nor do I think that they themselves considered them to be so.

The condition present in the case which I have related might have been mistaken for tuberculosis of the tongue. The history and course of the case, however, militated against such a diagnosis. Tuberculosis is rare as a secondary condition, and still rarer as a primary disease of the tongue. In twenty-six cases collected by Delavan,[1] nine out of the twenty-six were primary; in this series the primary cases were of greater than the average frequency.

Such cases certainly serve to impress upon us the necessity of recognizing and radically treating precancerous states of the tongue. Mr. Butlin, in a recent essay before the Harveian Society of London[2], stated that in quite a number of cases which had been under his observation, carcinoma of the tongue had been preceded by a condition which was so definitely associated with the subsequent development of cancer as to deserve the designation "precancerous." This condition he observed in over seventy per cent of cases of lingual carcinoma. Papillomatous or warty growths were apparently the most dangerous of the morbid states which actually and immediately preceded the development of cancer. Such warty growths he showed to be much more frequent than was generally believed. The question arose as to whether it would be proper, in cases of leucoma (leucoplakia buccalis?) and chronic glossitis of a superficial character, in which warts or warty growths develop on the surface of the tongue, to remove the entire diseased area, or, at least, the anterior portion of the organ, instead of, as is usually done, removing the

[1] New York Medical Journal, 1877. [2] Analectic.

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warty growth with a certain area of the surrounding tissue. Two cases were related in which wart-like growths developed on tongues affected by leucoma, and were removed, and in which, later on, carcinoma developed, but not at the site from which the warts had been removed. The internal administration of liquor arsenicalis was advised in all cases of chronic disease of the tongue which were associated with various forms of chronic disease of the general integument of a non-specific character. Several cases were also related to demonstrate the advantage of early excision of cancerous affections of the tongue. In view of the fact that in chronic syphilitic or other affections of the tongue, protracted irritation is apt to develop cancer in the already degraded tissues, it is desirable to avoid applications of an irritant character. The nitrate of silver particularly ought to be used cautiously as a stimulant or astringent, but never is a caustic. When it seems desirable to destroy portions of diseased tissue by means of caustics, the galvano-cautery is the best method for accomplishing the object. In lieu of this some active cauterant should be employed, such as chromic or nitric acid.

Antiseptic Gynæcology.

A. J. C. Saunier, M. D., Gynæcologist to West Side Dispensary, Chicago, Ill.

The use of glycerine as a topical application in uterine inflammations has been in vogue for many years and is accepted as a routine treatment by many practitioners. Since boracic acid has come into general use, its application has also become common, and its combination with glycerine forms one of the most valuable remedies possessed by the gynæcologist at the present time.

Recently I have been using a combination of glycerine, boracic and salicylic acids, which seems to give so much better results than glycerine and boracic acid, that I venture to send reports of some of the cases in which it has been used.

These cases are of various forms of pelvic inflammations and seem to warrant the belief that the combination may prove of quite extensive applicability in this class of diseases.

Case 1. Mrs. F. B., aged 31, has been married for ten years; has had no children and no miscarriages. Applied to me several months ago for treatment.

Patient had pelvic and sacral pain, coronal headache, dizziness, poor appetite, bowels constipated, excruciating pains at menstrual periods, both preceding and during the flow, and several times has had, what I believe from her description, to have been hpstero-epileptic fits. Was incapable of attending her light household duties from lack of strength, and much afraid of dying during one of her attacks.

Examination showed her to be suffering from endomentritis, endocervicitis, peri-uterine cellulitis and constriction of the internal os to such an extent as at first to prevent passage of a small silver probe. Her general condition was cared for by tonics and laxatives.

The introduction of graduated sounds was used to dilate the os, while tampons of glycerine relieved the worst of the cellular inflammation. When the os was sufficiently open to permit, pencils of iodoform and hydrastin were introduced as applications to the inflamed endometrium.

Under this treatment she progressed until all trouble was gone except the endo-cervicitis, which persisted in spite of all efforts directed against it, and the use of all ordinary agents with which I was acquainted.

At this time the combination of glycerine, boracic acid and salicine was brought to my notice, and thinking the formulæ a good one, I used this patient as a test case.

I was much pleased with its action from the first, and in about a month was able to discharge the patient cured.

Case 2. Mrs. A. G. Russian, age 24; married three years, no children; general health good. During menstruation she had a severe fall which caused much pain and stopped the flow. About a week after she applied to me for relief from severe pelvic and sacral pain. I found the left ovary and tube swollen and slightly prolapsed, and very tender on pressure; also some cellular inflammation on the left side.

I used glycerine tampons locally, and saline laxatives internally for about three weeks with considerable relief to the patient, but the ovary and tube remained the seat of severe pain.

Then uterine pencils of iodoform and hydrastin were used with the hope of controlling this symptom, but without success. At this time I received the antiseptic glycerine and began the use of it, applied on cotton tampons, and had the satisfaction of seeing my patient improve immediately, and after eight or ten applications discharged her with no pain, no swelling, ovary and tube restored to position so I could not reach them on examination, and able to do her own housework.

Case 3. Mrs. C. E. American, age 29. Married six years; has had two children. Bearing down and pains in pelvis for two or three years; severe leucorrhœa, headache and dizziness, and lately has several times fainted away. Examination showed eroded os, endo-cervicitis and purulent endometritis. Gave her iron tonics and local applications of antiseptic glycerine. She has now been under treatment seven weeks. The endometris seems to be all gone, uterus not very tender on pressure, cervical inflammation very much improved and erosion healed. The leucorrhœa has nearly ceased; she has no headache, is getting stronger, and I expect will soon be over her trouble, notwithstanding the fact that she has and does persist in doing heavy housework.

Case IV. Mrs. E. F. P. is a young woman twenty-five years of age; been married for eleven years (married at fourteen), has had four children, and is suffering from endometritis and peri-uterine cellulitis, following her last confinement, about a year ago.

After about two months' treatment with the antiseptic, she seemed cured of her trouble, and was free from their accompanying aches and pains.

The first warm day in March she removed all her winter flannels and went carriage riding. As a result the cellulitis returned, nearly as bad as at first, and she is now under the same treatment as before and improving.

Case V. Mrs. A. U.; age 37; German. Has had seven children and several miscarriages. The youngest child is nine months old. Its birth was followed by sub-involution, with its consequent prolapsus and retroversion.

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Six weeks' treatment with the antiseptic glycerine has reduced the organ to nearly its natural size, and it has partially resumed its natural position.

She has no more pains and bearing down, and has discontinued treatment.

Case VI. Mrs. V. F.; age 23; married three years; no children. Eighteen months ago she came to me, complaining of pelvic pain and tenesmus. I found a cystic tumor of the left broad ligament, about the size of an orange, and considerable cellulitis about all the pelvic organs.

She was treated by glycerine tampons, iodoform, iodine and hot douches for about six months, before the signs of inflammation were gone.

She has absolutely refused operative interference, and six months after stopping the first treatment, the tumor seemed to be reduced in size about one-third.

She remained in comparatively good health about a year, when she caught cold from exposure during menstruation, causing the flow to cease.

A severe cellulitis and metritis followed, which was treated by four applications of the antiseptic, with internal administration of cinchonidia salicylate and sodium salicylate.

She got up after the second tampon, having been in bed four days, and received two more treatments at my office the following week, since when the pains have ceased, and she feels well again. I believe the tumor is now increasing slowly in size.

I have had several other cases of acute suppression of menses in which I have used the Antiseptic, and have obtained more rapidly satisfactory results than from any other remedy I have ever used.

It does not re-establish the flow, but relieves the engorged tissues and restores the pelvic organs to a natural condition.

The antiseptic can be reduced to any desired strength by the addition of water, without precipitation, though in my cases it has always been used of full strength.

Doctorate Address.

Delivered at the Commencement of the College of Physicians and Surgeons of Chicago, March 25, 1890.

The Status of the Science of Medicine as Understood by the Masses.

By A. E. Hoadley, M. D., Chicago, Ill.

Ladies and Gentlemen: It affords me much pleasure to have the honor of addressing you upon this occasion; and as this is to be an address of welcome to the gentlemen of the graduating class, I hope that my remarks may be of interest to you all. I shall endeavor to make them so, and to that end I have chosen a subject of interest alike to the profession and the laity, namely: "The Status of the Science of Medicine as understood by the masses." I mean by the masses, the whole community—rich and poor, high and low, all averaged up as a single man. Therefore do not misunderstand me, for I may say things to which many individuals, as individuals, may take exceptions to. I apologize in advance for any remark that I may chance to make that could possibly be construed as being personal, for I assure you that I shall not indulge in personalities, and especially is this true of the newspapers whose representatives are here in quest of knowledge with which to carry on the great work of educating the people.

Gentlemen of the Graduating Class: I now have the honor of addressing you not as a class of medical students, but as physicians. I take great pleasure in welcoming you to the ranks of the profession. The advantages that you have had and of which you have so dilligently availed yourselves have made you right worthy of the honor. These advantages have never before been equaled, and probably there never was a class graduated, the members of which had so many scientific truths carefully stored away in their minds. Of course this is in a measure true of the class of every succeeding year; the advancement in this, the greatest of all sciences, is so rapid. I think that every one of you is thoroughly impressed with the fact that this is an age of advancement, and if there be one of you that is not so impressed, then you are in the wrong profession. The knowledge that you are in an age of progress is essential to success. With that knowledge well fixed in your minds, with the fact that you are well grounded in the science of medicine as known at the present day, with the fact that you have the authority of the College of Physicians and Surgeons that you are qualified to enter the profession and to practice the science and art with scientific and artistic skill, it will only be a question of time—time for your acquaintances to multiply, when they will with one accord proclaim you a man of science, and that in the bright future, your future will mean success. This grand success which awaits the man of science also implies that there is something for him to do. Gentlemen, it will be for you to see the science of medicine brought from its hiding, established as an exact science and recognized by the people as the greatest science on earth; and it will also be for you to see the man with true scientific attainments justly recognized, and there will be no place for the pretender or the patent medicine man, or the newspaper that subsists upon their advertisements.

Before we discuss the real question let us see what is the status of the medical science of to-day, an understanding of which will enable us to contrast the true facts with the popular notions, and at the same time we can better understand why I predict for the present class such a bright future medically. I said that the science of medicine was the greatest of all sciences, and I believe it is. It is certainly a great and noble science, a science true and exact to a much greater extent than is commonly supposed, based as it is upon the sciences of anatomy, physiology, chemistry and of pathology, each of which is capable of demonstration to a mathematical exactness; each of which is in itself sufficient to furnish the average student employment for a lifetime, if he would acquire anything like perfection. With these sciences—and nobody will deny but what they are true and exact sciences—for a foundation bound together by other exact knowledge such as might be called mechanical, the numerous appliances and a knowledge of the numerous instruments of precision, topped out with the art of surgery and the art in medicine and finished up with the balance of our medical knowledge that may be regarded as strictly empirical, we have a wonderful science. The time has now gone by when we should

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call medicine an art with much science in it and more empirical knowledge. It must henceforth be called a science with much art and considerable empirical knowledge that is still believed to be useful, and very much of this must soon give way to science. Day by day old methods and remedies, that for many years have enjoyed a popularity, are being discarded, for in the light of scientific knowledge it cannot be demonstrated that they are useful. So much for the real status of affairs; and the signs of the times give promise that the progress in medicine will be no less rapid in the generation in which you are to live, and gentlemen if that be the case, your spare moments will be fully occupied in keeping up with the times.

Now, how is this great science accepted and understood by the people? If you were to ask the community of to-day which was the greatest science, the one which contained the greatest number of facts capable of mathematical demonstration, I think that the science of medicine would be the last one named for the honor, when in reality it should be the first. The truth is that the community knows more about every other science or art than it does about the science and art of medicine. The people are still of the opinion that at best all knowledge in medicine is empirical, and to a great extent even among those that have enjoyed a liberal education.

Many still cling to the whims, signs, usages, and rules that were born in an age of ignorance and superstition. The science of medicine to the masses is utterly incomprehensible. They have not advanced. They are as ready to-day to be humbugged by anything medical that is said to have supernatural powers, any elixir of life or cure-all, especially if "the paper recommended it," as they say, as they were a hundred years ago. A patent medicine "ad." of the most brazen character will capture their best patrons and most ready victims among the educated, the elite, and I blush to say it, among the gentlemen of the cloth, who are very often persuaded to lend themselves to the base purposes of designing and unscrupulous patent medicine men and quacks in extolling worthless nostrums and testifying to impossible results. Of course this is done through ignorance.

A prominent lawyer of this city called upon his physician for the purpose of learning whether or not he had kidney disease, stating that if he had he knew how to treat it himself, and he did not want to undergo a course of treatment if his kidneys were not affected. He knew that he could cure himself because several years ago he had kidney disease and after taking seven bottles of a certain patent medicine he was cured. He did not remember what the medicine was, but he could go to a drug store and very soon find out by looking over the patent medicines for kidney disease. Inasmuch as there was twenty-five or thirty different kinds of kidney disease he was asked which particular disease he wanted diagnosed and what particular disease was it, that was cured in seven weeks by that wonderful patent medicine. He was also asked if it were not possible to have recovered in seven weeks without any medicine, for he was assured that some of the diseases of the kidneys should get well in much less time without treatment. These questions caused the gentleman of the law to think a moment, when he said, "my common sense is common ignorance. I shall place my case, treatment and all, in your hands." There is much ignorance in high places. The legislature of the State of Illinois practically abolished the Illinois State Board of Health last year by refusing to appropriate funds for its support, on the ground that it prohibited ignorant people from practicing medicine; on the ground that if an old lady had cured certain diseases by certain herbs, that she ought to be allowed to continue the good work. The Board of Health was unjust to the ignorant and the old lady's and should not be sustained, and thus they went on record. It was not until several weeks later that they recovered their senses and passed the appropriation. What is the explanation of such a state of affairs? Simply this: From time immemorial there has been more superstition in regard to medicine and the sick than in all things else. The people have always looked upon medicine as something supernatural and uncanny, although witchery has been recently driven out of the popular mind, the superstitious notions of the people in regard to medicine are by no means dead. In the minds of the community there is nothing tangible in medicine; all is mystical. If any one doctor cannot cure another must. No amount of explanation will explain. They cannot understand why a cure cannot in every instance, be accomplished. There must be a cure for all ills, and why not? Doctors have said so, old ladies believe it; and if you have the cure it is the cure for all time. Then, again if such an one had been called ten minutes sooner his cure would have acted as it always has in those very same cases, and most every one knows of just such a case that got well. The treatment must have been wrong, etc., etc. These are the expressions of the people of to-day, and the reason that such a state of affairs exists is, in the first place, the fault of the practitioner himself, who, until recent years has sought to keep the people in ignorance, affirming that a little knowledge in this direction was dangerous; also that if you made a confidant of your patient and endeavor to enlighten him he would immediately distrust you. So to this end evasive answers were given to direct questions. It was easier to evade than to explain; and for this reason, if for no other, it has been possible for the people of the present day to retain their crude and exceedingly ridiculous ideas of medicine as heir-looms of the dark ages.

Then again, physicians disagree, and when this can be brought to public notice in a newspaper paragraph, it is always to ridicule the science, and tends to encourage the belief in the popular mind that there is no science in medicine. Expert testimony in criminal or civil lawsuits furnishes such cases in abundance. Where the scientific physician is contradicted by some brazen-faced ignoramus, or possibly where men of equal merit disagree, not because the science is defective, but because of imperfect knowledge. The disagreement in the smallest detail in a court of justice between two medical witnesses is quite sufficient for the lawyers to quarrel about and to furnish the papers with sensational stuff, which is the more sensational if the cause of medical science is made to suffer. Science never paid the newspapers anything for advertisements, and why should the newspapers defend the science. On the other hand, ignorance and humbuggery in medicine contribute enormous sums. Then, why indeed should the science be defended by the papers?

Gentlemen, these are some of the things that the rising generation will make ample amends for. If you

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do not answer their questions and properly too, the cause will be assigned to ignorance and not as formerly, to a profound knowledge. The generation with which you will have to deal will think for themselves, and the rubbish that has been doled out to the patients of the past will not go down with the patients of the future, such as biliousness and malaria, "it's your liver." And when physicians publicly disagree it will redound to the discredit of one at least of the physicians and not to the whole fraternity, and the science as well. The newspapers will deal with the question on its merits and state the facts, and the community liberated from its ignorance, will be able to decide. Highly colored and distorted accounts of impossible cures or operations either for sensation or profit by the great educator of the world, the "press," will not be tolerated.

The education of the coming generation will be as different from the one just past as your medical education is different from a medical education of twenty years ago. The public schools are now teaching anatomy, physiology, hygiene and chemistry with some pathological facts as well. The scholars like it and take a keen interest in learning something about the mystical art, and already the school children of Chicago are able to rebuke their seniors and point with derision at their ignorance of the simplest and most easily understood facts in all nature. The children dumbfound their otherwise-educated parents by narrating the simple elementary principles of physiology, and their statement of a physiological fact carries with it more weight and conviction than if uttered by a professor. The parents like it and conclude that it is good to know something about one's self and encourage their children; whereas, a few years ago, it was considered quite improper for girls especially to know anything of anatomy and physiology. The next innovation into the public schools will be the elements of pathology. The children are eager for it, the public is ready for it, and gentlemen, just as soon as you can prepare a suitable pathology for public school use it will be accepted and introduced into the curriculum. The public schools of this country, the best in the world, are anxious to adopt any study or methods of teaching that can advance the general knowledge of the people. All the school children that commence their school life with this year will in ten years have graduated from the public high school, provided they go that far. What percentage of the school children of six years go through the high school I do not know, but as many as do will have a knowledge of the elements of physiology, anatomy and pathology. The number thus educated will certainly constitute one-tenth of the population, and where one in ten is capable of being interested in a question it is sure to become a live public question of national interest, and when once the science of medicine becomes a question of general interest and is discussed by the people, the result will be all that the most enthusiastic could desire. Of course everybody cannot be educated in the science, but everybody can learn a fact just as quick as a fiction, and when the fundamental principles of the great science of medicine becomes common property one's medical education, so to speak, will commence with the first words articulated. He will learn his anatomy in the nursery.

The fundamental principles are easy and simple and when understood and disseminated will expose all frauds in medicine, will expose all humbugs; all medical frauds and humbugs will cease to exist, partly on account of their overwhelming numbers and being a common nuisance, and partly on account of being exposed. The few that may for a time survive exposure will be summarily dealt with by suitable legislation. The legislators will be educated in the rudiments of anatomy, physiology and pathology. They will also be educated to the knowledge of the fact that fifty per cent of all deaths is preventable by skilled treatment.

With this knowledge they will legislate. Do you think that they will legislate to protect the ignorant in the practice of medicine, to protect the charlatan, to protect the thousand and one existing frauds and humbugs that are advertised far and near, without truthful statement, without restraint? If not, then the humbugs one and all must go, and they are so numerous and so varied in character, all striving with superhuman effort, a disorderly and undescribable scramble, to gain the notice of the community that when the crash comes it will be something marvelous in its wide-spread and far-reaching influence. In that glad day, the day of glorification of the science of medicine by the people which all the signs of the times say will soon come, there should be constructed in the metropolis of every state in the Union, by the State or people, a grand monument in commemoration of the liberation of the people from their ignorance and superstition in medical matters, This monument should be a grand building, constructed to endure, and provided with many apartments sustained by the State for the people, and it should be called "The Museum and Laboratories of the Medical Sciences." There should be departments for original research work in anatomy, physiology, pathology, bacteriology, etc., together with museum departments for the collection and exhibition of specimens in each of these departments. The departments of anatomy and physiology especially should be maintained in working form to accommodate classes made up from the people from the school for the purpose of imparting general knowledge; while the laboratories of pathology and bacteriology should be prepared to accommodate students of the profession who are studying or have studied in a didactic and clinical school of medicine. To make the pathological museum department of this great museum complete it should receive all possible support by contributions of pathological specimens of all kinds from all physicians, from all colleges and from all clinics in the State. Such a monument would be a boon to the people, a glory to the science, and it will be in strict accordance with the progress of the people in education, and you need have no fears but what the profession will keep abreast of the times.

Gentlemen, when this great museum of sience is instituted you must not fail to have certain things therein deposited; not that they in any way belong to science or are scientific except so far as history is scientific. They will occupy but little room in such a great collection, but what little room they do occupy should be well disposed and very conspicuous as they will be exceedingly interesting to future generations. The first of these that I would call your attention to is an institution of very ancient origin, probably thirty centuries old. Seventy-five years ago it had obtained very great proportions and did not perceptibly diminish in size until within the last twenty-five

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years. Now it is wonderfully dwarfed, and by the time the museum is completed it can be very comfortably shelved and labeled. This institution was named by Hahnemann. He called it Allopathy. The next in interest in this particular collection is not of ancient origin, not so formidable, very flimsy and hazy in structure, in fact it will require some faith to see it when placed upon the shelf. It requires faith to see it now. It is a creature of Hahnemann, and he named it Homœopathy.

Then comes the science that, when mingled with the science for which this great museum will be constructed, will be lost in the mixing and it will be impossible to label it, namely: the Christian Science. There are still others, and if they are not entirely lost or the species extinct they may be pinned up by the entomologist with the other bugs.

Society Proceedings.

Chicago Medical Society.

A. E. Hoadley, M. D.....*President.*
Junius C. Hoag, M. D.....*Secretary.*
F. A. Holland.....*Stenographer.*

Chicago, March 3, 1890.

The President, A. E. Hoadley, M. D., in the Chair.

Dr. Sanger Brown read a paper on: *Acute Ascending Paralysis (Landry's Disease), followed by Ataxic Paraplegia.*

ACUTE ASCENDING PARALYSIS

Was first recognized and described by Landry in 1859. Since that time numerous supposed cases have been reported; though the points of similarity between some of the symptoms of the disease and acute ascending myelitis renders it somewhat doubtful under which heading some of the cases most properly belong.

The etiology is obscure, but remote influences correspond pretty nearly to those found in acute myelitis. The disease is more frequent in males than in females, and chiefly occurs between 20 and 40. As an exciting cause exposure to cold ranks first. Convalescence from small pox, typhoid fever and diphtheria have also been mentioned in this relation. Some authors regard syphilis as a frequent cause, but this opinion has not been generally received.

No constant premonitory symptoms have been observed. General malaise, slight fever, pains in the head and back, formication, numbness in the feet and finger tips have all occasionally preceded the onset.

The first definite symptom is usually weakness, beginning in the feet and extending steadily up the legs. It may begin somewhat earlier in one foot than in the other.

The paralysis appears first in the muscles that move the feet, then those which move the leg, and later in those which move the thigh. It then extends to the muscles of the pelvis, loins, abdomen and thorax in the order named. The arms are next invaded, either from below upward or from above downward. The diaphragm and the neck muscles next suffer, difficulty of swallowing comes on and articulation becomes imperfect, or impossible. Unless the disease is arrested the patient soon dies from asphyxia due to paralysis of the muscles of respiration.

The sphincters may escape entirely or suffer considerably. The sensory symptoms vary from slight subjective numbness and tingling to a considerable degree of anæsthesia. Sensibility to touch is frequently blunted, and that to pain and temperature changes may be delayed.

Pain is nearly always absent and never prominent. At first the cutaneous reflexes and myotalic irritability are lost; but in most cases which do not terminate fatally, they return and may become excessive.

Although the muscles soon become flaccid, they do not atrophy nor present altered electrical reactions, nor is there any tendency to bed-sores, striking points of difference when the disease is contrasted with acute myelitis.

The cerebral functions are not involved. As a rule there is no elevation of temperature. Enlargement of the spleen has been observed in several cases. Though from two to four days is the period usually occupied by the disease from its commencement till it ceases to progress, either from the supervention of death or otherwise, it may progress to a fatal termination in a few hours, or occupy so long a time as four weeks.

Though the order of invasion already described is most usual, considerable variation from it has been noticed. The arms have sometimes been involved before the legs, and bulbar symptoms have been said in some cases to take the precedence.

Very rarely there has been diplopia, paralysis of accommodation, dilatation of one pupil, and in one case double facial palsy. After having advanced rapidly to a certain point the disease may stop, the muscles last affected being the first to recover. Though the whole nervous system, including the sympathetic and the muscles, have been examined by the most competent pathologists only negative results have been obtained.

The traces of inflammatory changes in the gray matter which a few writers claim to have found, have led them to pronounce the disease a form of acute atrophic paralysis. But the absence of fever, muscular wasting and changes in electro excitability are strongly opposed to this view.

The occasional enlargement of the spleen has led to the hypothesis of a toxic influence mainly acting upon that lower portion of the upper motor segment where its ramifications unite with the various cellular elements in the gray matter of the cord.

Now, so able an observer as Dr. Gowers makes disease of these filaments a working hypothesis by which the symptoms in this disorder and in ataxic paraplegia may be explained, and this case, so far as I am aware, the only one of the kind on record, would seem most peculiarly to confirm Dr. Gower's hypothesis.

In reaching a diagnosis the rapidly ascending palsy with relaxation of muscles and loss of reflex action, without fever, pain and loss of sensation, and if the patient survives without wasting of muscles or changes in electrical excitability, are the main points to be borne in mind.

General ascending myelitis is the only disease which may present considerable similarity in the mode of onset and early symptoms. But in this latter affection there is always much disturbance of sensation, there is a strong tendency to bed sores and other evidence of trophic disorder; the muscles waste and will not respond to the faradic current, if the patient survives.

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A large majority of cases is fatal and the prognosis is always grave until the march of the symptoms is arrested. Relapses are infrequent.

As, during the early stages the disease cannot be distinguished with certainty from acute myelitis, the treatment should be that most suitable for this latter disorder.

Rest, lateral decubitus, and counter-irritation the whole length of the spine, are appropriate measures. Ergotin and salicylate of soda have each been employed with some apparent benefit.

HISTORY.

Following is a history of the case, which furnished the text for this paper: A. B., æt. 42, married, native of Ohio. Was brought up on a farm and has been by turns farmer, carpenter and builder, and merchant. Temperate, active habits and disposed to work long hours. Family history good. Mother still living, æt. 70, and he thinks has cancer of the breast.

At the age of 16 had a severe attack of pneumonia, and ten years ago a severe attack of typhoid fever, in the meantime having had while camping in the West several severe attacks of malaria; during which he was delirious when the fever was at its height.

In the fall of '83, forty days after exposure, had a small, hard sore on the penis, which his physician pronounced syphilitic. No secondary symptoms were ever observed.

About six months prior to June, 1887, began to suffer with occipital headache, which never left him; and often manifested violent exacebrations, which increased in frequency and severity until toward the latter part of the period when diplopia sometimes occurred at the climax of an exacerbation. The character of the pain he says was steady, dull and heavy. He ate and slept fairly, however, and was able to attend to business as usual.

Tried many physicians and took various and numerous remedies, but without any relief.

On the morning of June 9, 1887, traveled by train about twenty-five miles to consult a physician in regard to his headache, and while sitting in the physician's office about sundown of that day, noticed a slight but distinct numbness of the toes of the left foot, as if the parts were "asleep." About two hours later when he retired, the numbness had reached the ankle, but he noticed no weakness when walking. He awoke about 1 a. m., and thinking it might be time for an early train, which he wished to take in order to return home, he observed on going down stairs that the numbness had extended above the knee and that the muscles of the leg were quite weak, so that he walked with difficulty. And at the same time he noticed that numbness had extended to the ankle on the other side.

When he rose the next morning at five, the numbness had extended to the hip on the left side and nearly to the knee on the right, and the weakness had increased considerably in both legs, so that it was only with great difficulty that he could walk to the railway station, a distance of about half a mile. When there he took a sandwich and cup of coffee for breakfast, but soon vomited, though he is certain that he had no fever at any time during the attack. He reached home about 10 a. m., and found upon trying to walk a few yards to his house that the weakness had increased very considerably, so that he needed assistance.

Continued to grow weaker throughout the day, the numbness and weakness of the right leg having overtaken that of the left, progressed evenly above the hips, but more slowly than it had advanced up the legs. He slept some during the night and next morning, by holding on the fence along the walk for support, reached his place of business, but returned almost immediately; the paralysis having progressed very markedly in degree. About 10 a. m. the numbness having reached the umbilicus, severe nauseous vomiting and hiccoughing set in and lasted pretty steadily for forty-eight hours. When the numbness had reached the umbilicus, it appeared in the finger tips of each hand and extended nearly the whole length of the distal phalanges of the second and third fingers, and only at the extreme ends of the other fingers and thumbs. Here it ceased, and no weakness of the hands or upper extremities ensued, but the altered subjective sensation and blunting of tactile sensibility still remains as it does elsewhere.

The paralysis of the legs and lower trunk muscles appears to have been almost complete by the end of the first 48 to 60 hours. And it seems safe to say that extension ceased at the end of 48 hours from the commencement of the attack.

The patient is a man of active intelligence, and, after the disease had fully developed, often tried to discover any possible power of motion in the lower extremities, and was only able to make very slight pressure against the bed-clothes with the outer side of each foot.

The sphincters were distinctly affected but not greatly. Haste had to be made when he felt the desire to urinate or defecate, if the passage was loose, in order to prevent an accident. Constipation resulted probably from lack of exercise and paralysis of abdominal muscles.

The mind was clear so that the patient kept the run of his business as perfectly as ever, but he felt a dislike for his wife and children which he had never felt before. Did not want them about him and wanted the constant presence of his mother. This may have been nothing more than an excessive degree of the peevishness often observed in invalids; the feeling subsided as improvement began.

Sexual power was lost though desire was not much altered. First began to regain some power of movement in bed in about six weeks from the onset, and by the end of two months could stand by supporting himself by holding on to the backs of two chairs.

I am unable to get any information regarding the state of the reflexes while the patient was in bed, but the cutaneous reflex and ancle clonus were well marked when he began to walk, as well as spastic symptoms.

While sitting in a chair with the ball of the foot on the ground and the heel unsupported, marked clonus would be produced.

If he would step with his bare foot on a small piece of coal, would be thrown down by the violence of the contraction thus produced and his legs would become rigid when he suddenly straightened them out in bed.

Incoordination was first noticed a few months after he began to walk, though he thinks it may have existed earlier. Inability to walk in the dark first attracted the patient's attention.

Patient thinks that on the whole there has been a sort of interrupted improvement extending from a

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period about six weeks after the onset down to the present time, though slower within the last year than before.

The subjective influence of custom and the increased facility gained by practicing locomotion under difficulties must all be taken into account in considering the patient's estimate. He has, however, been for nearly six months past under the observation of my assistant, Dr. Slater, at the Post Graduate Medical School, who has watched and studied the case with great care, and he reports distinct improvements within that period.

PRESENT CONDITION.

Patient is well nourished and with the exception of a somewhat capricious appetite, his general health is good. Probably owing to some weakness of the abdominal muscles and some blunting of insensibility of the rectum he has to stimulate this latter organ by the insertion of his fingers in order to effect a movement of the bowels. The sphincters are still somewhat weak, and he says it would be difficult, or even impossible, for him to retain a loose passage after taking physic, and he has to make haste when he feels the desire to urinate.

The gait is typical of ataxic paraplegia; the feet are kept far apart; the legs are rather dragged after the body and the toes scrape the ground. There is considerable jerkiness in any movement of the leg. Cannot stand without support with eyes closed.

Myotatic irritability as evidenced by the knee-jerk and ankle clonus is considerably exaggerated and so is the cutaneous reflex from the soles, though it is not developed by a slight touch. A slight prick of a pin produces a sharp contraction. Cremasteric, gluteal and abdominal reflexes could not be obtained.

There is no muscular atrophy in any situation, no tendency to trophic changes and electrical excitability to both currents is normal in quality though possibly reduced somewhat in quantity. The patient thinks the subjective feeling of numbness—exactly as if the parts were asleep—is the same as at the time of the onset. The sensibility to touch and temperature changes is distinctly blunted. When a test tube filled with hot water was firmly applied to any part he promptly responded correctly, but when a tube of exactly the same size and shape filled with cold water was applied, there were many parts below the knee upon both legs where he could not be certain if it was hot or cold, and in an oval space about three inches in the longest, vertical, diameter on the inside of the left calf he frequently pronounced a cold body hot. The prick of a pin produces pain promptly and he thinks natural in quality.

Tactile sensibility and sensibility to temperature changes improves gradually from the knees to the uppermost limit in the vicinity of the umbilicus, which comprises a zone of doubtful territory about two inches wide. That is when the finger is passed slowly either upward or downward, and the patient is requested, with closed eyes, to indicate when the limit is reached, he will say "right about there," when the finger is arrested anywhere in a zone as above described.

Though while the patient has been under my observation the left pupil has generally been a trifle larger than the right, I have been unable to discover any conspicuous defect in vision, movement, the fundus or ocular reflexes, that would tend to throw any light on the case.

I should have stated that throughout the period of headache preceding the onset of paralysis, the patient had ulceration of the scrotum, which itched intolerably and which he habitually scratched. When the paralysis supervened his attention was no longer directed to the scrotial itching and the ulcer healed leaving a cicatrix which I would not be able to pronounce positively specific.

An acute process commencing at the lower extremity of the lumbar enlargement and rapidly progressing to its upper extremity—or to the eleventh dorsal pair slightly above the upper extremity—and there ceasing, and then commencing between the seventh and eighth cervical pair at the bottommost part of the functionally important region of the cervical enlargement, and manifesting the same progressive tendency that was shown in the lower segment would seem to lend peculiarily strong support to the etiological hypothesis put forward by Gowers, that this disease may be due to a toxic or other influence acting upon the fine filamentous terminations of the upper segment in the gray matter of the cord.

That the process stopped near the level of the eleventh pair to continue near the eighth; if possibly it did not begin in the latter before it had entirely ceased to progress in the former situation, would indicate a special susceptibility of the parts in proportion to their distance from their centre, the brain, their functual complexity and importance and the distance from them and from their centre, of the parts to which the special modes of energy they severally convey is ultimately conducted.

That is it would be easy to understand how a comparatively coarse mechanism might suffice to distribute the necessary energy to the abdominal muscles, while an exceedingly fine and complex mechanism might be required to supply the hand, finer indeed than that for the foot, but the increased distance of these latter filaments from their centre might give them the priority in point of vulnerability.

I shall refrain from attempting to account for the nausea vomiting, and hiccoughing, as well as the antecedent headache.

While the title acute ascending paralysis, terminating in a condition of ataxic paraplegia would have been less open to criticism than the one I have employed. I think any one examining the patient now without the history must pronounce it a fairly typical case of spatic paraplegia.

The history of course shows that the present condition was reached by a process of regression and not progression as in ataxic paraplegia proper.

Dr. H. N. Moyer: Mr. President, I fully agree with the last speaker in regarding Landry's paralysis as a rare affection. I have never seen a case of it, but had an opportunity once to examine microscopically the spinal cord of a patient who had undoubtedly died of Landry's disease. The changes found in that cord are those which are frequently described in the literature of these cases, what might be called cloudy swelling of the gray matter. A change so uncertain in its nature that you are apt to think that you have not got a true pathological condition but a change that may be due to the reagents employed. There was with the discovery of this disease and description of it published by Landry, a simultaneous discovery

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by Kusmal, so that in Continental literature it is called the Landry-Kusmal disease. In 1875 Westphal published his monograph and I think advanced the theory of its infectious nature, but he agreed with other writers that the central nervous system did not present any pathological changes. The next reference to the pathology is in Weber's little book published in Boston some years ago, in which he dismisses the whole subject of Landry's paralysis with the statement that it is probably one of the forms of acute myelitis and need not be described as a special clinical variety.

But he makes one significant statement, viz., that the peripheral nerves have never been examined in any of the cases so far. Since that time Ross has published (and is still publishing) his monograph on peripheral neuritis, and he there takes the ground that it is possibly not a disease of the central nervous system, but is a disease of the peripheral nerves. In 1889, Centanni published an article in which he describes a typical case of Landry's paralysis, in which the peripheral nerves were examined and found infiltrated throughout with great masses of bacilli, more numerous in the lymphatic spaces. These bacilli reacted to the menthyl blue stain; but no cultivations were made so far as I know. This is a single observation, but it goes to show what may be the true pathology of Landry's paralysis.

For some time numerous writers have inclined to the view that this disease was infectious in its nature. This with the observation of Centannis, may point to the true pathology—an acute infectious condition of the peripheral nervous system.

Dr. W. F. Coleman: As I have had an opportunity to examine this patient of Dr. Brown's so far as the eyes are concerned, it may be of interest to report what I found. As I remember the case six months previous to the symptoms of paralysis, the patient had violent occipital headache with occasional attacks of diplopia, which were intermittent and occurred when the pain was most violent, but which were not at any time constant. I could not learn from him whether the diplopia was crossed or direct. He had no further diplopia until the last six months when twice, at intervals of three days diplopia occurred again, the last attack being about a month since. To account for the diplopia may be of some interest. That it was not a central organic lesion is evident from the fact that it was not constant at any time but was intermittent. He had an insufficiency of the interni of two degrees, and also facultative insufficiency of adduction; that is, instead of the usual proportion of one to three he had one to two—7° of the external to 14° of the internal. So, as a matter of theory, the diplopia was functionally due to his intense headache, and insufficiency of the interni; and it excludes, to my mind, any organic trouble. His pupillary reflex was normal both to light and convergence, his pupils were equal and each fundus normal. Optic nerve changes, which we look for in locomotor ataxia for which this case was taken, were absent. There were no signs of the nerve change which often takes place a very long time before any symptoms of locomotor ataxia occur; Optic nerve atrophy may occur, according to observers, twenty years previously. But in this case there was no change of any kind in the nerve.

Dr. Archibald Church: Mr. President. I am very glad to have heard the paper this evening and the discussion which has followed it, for the disease was, something like two years ago, called very forcibly to my attention through the privilege accorded me by Prof. Pick, of seeing a case which was under his care in the Irren Ansthalt in Prague. This case terminated as this disease usually does, in death. The patient died on the eleventh day and subsequently an autopsy was made by Prof. Chiari, than whom there is no better pathologist, but not the slightest pathological anatomy was to be discovered. This was followed by a bacterialogical, chemical and microscopical examination of the most searching kind, but without the slightest conclusion being reached as to the pathology of the disease, and the peripheral nerves were also examined. Landry's paralysis, although it has been prominently before the neurological world for all these years, has been seen but rarely. Every writer who describes it is emphatic in the statement that it is a rare disease. Gowers and Bromwell in Great Britain, whose fields of observation are second to none, have had no personal experience with the malady, although they have described it, basing their description upon the results of continental observers and the reports of their cases. Added to the fact that it is an extremely rare disease is the additional point that it is almost always fatal; that is, over 75 per cent of indubitable cases end in death. Some writers insist that a non-fatal issue controverts the diagnosis in itself. These two facts combined justify one in always being skeptical in regard to Landry's paralysis whenever met in an atypical form.

There are five points on which such a diagnosis rests and only one is positive; the other four are negative and none are characteristic. The first, the positive point, is the sudden onset of paralysis in the lower extremeties, gradually extending and implicating the trunk and finally terminating the life of the patient; but this may be found in other conditions as the Doctor mentions. The second point is that the reflexes and sensations in Landry's paralysis are almost always unaffected. The third point is that the electrical reactions are almost always normal. The fourth point is that no atrophy results. The fifth point is the great tendency toward fatality.

In the case which the Doctor has kindly brought before us, we have first the onset of a rather sudden, and extending paralysis which is in accordance with the diagnosis, but the sensations were notably changed which is against the diagnosis. The patient had feelings of numbness and subsequently, when an examination of an intelligent nature could be made, the general sensibilities were found notably modified and so remain. Again lack of atrophy is in accordance with the diagnosis, but the patient is still alive which is against it, as is the fact that the reflex were exaggerated early in the disease. The electrical reactions were not examined until recently. Therefore, from these points and some minor ones, I am not inclined to consider this a case of Landry's paralysis. The description, however, of his present condition tallies exactly with the diagnosis of ataxic paraplegia. Now we know that in five to ten per cent of cases of ataxia paraplegia there is a sub acute onset, that is, one marked by these sensory symptoms and the presence of a rapidly developing weakness almost to the point of paralysis similar to that set forth in the clinical history of this case. In consequence I think one might be justified in considering this an instance of ataxic paraplegia from the onset, and am of the opin-

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ion that it would be difficult here to maintain a diagnosis of Landry's paralysis.

Dr. Sanger Brown: Mr. President. I do not know that I can add very much to what I have already said in the paper. In regard to the remarks of Dr. Brower concerning his two cases, I may say that this is the only case I have ever seen of Landry's paralysis, and my knowledge of this has been gained entirely from the history of the patient as I have had it from himself, and he is a very intelligent man. Any one who studies the literature of the subject carefully will find, I think, the symptoms in Dr. Brower's case and in this case differ less from the typical symptoms than the majority of reported cases. It should be observed too, that all authorities admit considerable variations in the range of the sensory symptoms. I have made the diagnosis largely upon the exclusion theory; that is, I thought from the history—which is very reliable—that it could not be anything but Landry's paralysis. The only other thing it might be, so far as I am able to discover, is acute ascending myelitis, which sometimes begins in very much the same way that this case did; only, of course, there are points after the case has lasted for a few days or weeks which render the diagnosis pretty certain. The points in this case I think make it safe to exclude acute ascending myelitis.

In regard to the pathology spoken of by Dr. Moyer, I can hardly understand, if this is a case of Landry's disease, how he could possibly fit to it a pathology involving the peripheral nerves. The after-progress of the case I think shows conclusively that the disease is central.

In regard to the very intelligent criticism of Dr. Church, I have been unable in my experience or reading, to learn of a case of ataxic paraplegia or spastic paraplegia where the symptoms began like this, and reached a climax in forty-eight hours and from that time forward steadily declined. I think that ataxic paraplegia, as set down in the books and by observation of cases, is almost invariably a progressive disease.

Dr. Bayard Holmes read a paper on *The Evolution of Infection:*

"Around about the accredited and orderly facts of every science there floats a sort of dust-cloud of exceptional observations of occurrences, minute and irregular and seldom met with, which always appears less easy to attend to than to ignore. * * * Each one of our various "ologies" seems to offer a definite head to classification of every possible sort which it professes to cover; and so far from free is most men's fancy, that when a consistent and organized scheme of this sort has once been comprehended and assimilated, a different scheme is unimaginable."—*William James.*

"The assistance rendered by animals to each other is as varied as that which is found amongst men. Some receive merely an abode, others nourishment, others gain food and shelter; we find a perfect system of board and lodging combined with philozoic institutions arranged in the most perfect manner. But if we see by the side of these paupers some which render to one another mutual services, it would be little flattering to them to call all indiscriminately either parasites or messmates."—*P. J. Van Beneden.*

"We need not abandon the hope of explaining morphological characters on Darwinian principles, though their nature is no doubt often difficult to understand."—*Karl Semper.*

"The longevity of an organic type has on the whole, been in inverse proportion to its perfection."—*Geikie.*

With this rather long text I would endeavor to present to your minds some of the most obvious points which bear upon the evolution of plants and animals. There are very few students of nature to-day who are not imbued with the philosophy of evolution.

Every isolated fact in the life of an organism takes on an added interest when viewed in its relation to the great principles of natural selection. But now I would call attention from the standpoint of an evolutionist to the relation which those pathogenic organisms we deem the essential features of infection bear to their host. It can be fairly presumed that those relations of conviviality which we think exist between messmates, and between host and parasite, are subjects of natural selection. Indeed, the study of the fertilization of flowers shows us the most intimate dependence of a large number of plants upon their animal parasites, and this too, accompanied by change in the essential organs of plants which are most confusing to the young botanist. So mutually beneficial is the association of certain forms that they have been called mutualists. But these relations are so far-reaching and intricate that they surprise us into the belief that a single parasitic species can be destroyed or introduced without overthrowing the equilibrium of animal life.

"The subtlety and variety of the conditions upon which natural selection seizes, escapes the keenest observers. Of their success, however, in tracing varying evidences of species, Darwin gives a striking illustration in his explanation of the absence of wild oxen and horses in Paraguay. This is due to the action of a small fly, which lays its eggs in the navel of newly-born cows and foals. The maggots hatch from the eggs, causing the death of the young animals. Now supposing this parasitic fly to be destroyed by an insect-eating bird, oxen and horses would abound in a wild state, and as they would eat certain plants the vegetation would be altered, and this change in the flora and fauna would involve change of increasing complexity. The inter-relation between the proportion of old maids and an abundance of red clover is not prima facia quite as obvious. But it may be explained in this wise: The clover is fertilized by bumble-bees, the number of which is determined by the number of field mice which destroy their nests. The number of field mice is determined by the number of cats, and the number of these finally by the number of old maids who keep them. Therefore, as red clover is excellent food for cattle, and cattle are excellent food for man, elderly spinsters are benefactors to their species."

The greater number of parasites are to be found among the lesser plants and animals. This is as we should suppose. The parasite which would derive its support from an organism smaller than itself would soon destroy its host and itself perish in turn. It is secure in its position of parasitism only when and as long as it takes from its host no more than can be easily spared. The condition of parasitism then exists best when the assistance which the parasite demands can be granted without material injury to the host or when the parasite is actually beneficial or even essential to the existence to the host species.

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There is scarcely any end to the variations and modifications which an organism may undergo by natural selection, provided a sufficient time be allowed for the changes to be undergone. And, moreover, there is no part of an organism which may not be modified by this agency if such changes become advantageous to it in the struggle for existence. When, therefore, we find an adaption of great complexity we must assume that the relations requiring such adaptation have been in action a proportionately long time. This is not only the case in the adaptations of an organism to its lifeless environments, but it is in the same degree the case in the adaptations existing between host and parasite or between messmates. One of the most remarkable of these convivial adaptations is related by Charles Darwin in regard to slave making ants.*

"This ant is absolutely dependent on its slaves; without their aid, the species would certainly become extinct in a single year. The males and fertile females do no work of any kind, and the workers or sterile females, though most energetic and courageous in capturing slaves, do no other work. They are incapable of making their own nests, or of feeding their own larvæ. When one of the old nests is found inconvenient and they have to migrate, it is the slaves which determine the migration, and actually carry their masters in their jaws. So utterly helpless are the masters that when Huber shut up thirty of them without a slave but with plenty of food which they liked best, and with their own larvæ and pupæ to stimulate them to work, they did nothing; they could not even feed themselves, and many perished of hunger. Huber then introduced a single slave (formica fusca), and she instantly set to work, fed and saved the survivors; made some cells and tended to the larvæ, and put all to rights."

Such an adaptation of a whole species to an artificial condition would be wholly anomalous and explainable were it not for the fact that related species have been studied in distant localities that show a less complete adaptation to and dependent upon the condition of slavery.

It is truly useless to conjecture how the slave making instinct arose but to compute how long a time it would require for a species of ants to become wholly dependent upon its slaves which it had learned to capture and rear in its nests. From the advantage which it received from the workers hatched from the pupæ which it had accidentally brought into its nest as food but failed to devour before it hatched.

It then is a most important factor in the action of natural selection and in condition of parasitism which is so perfectly developed that the life of a parasitic species or the life of a host species as dependent upon its uninterrupted perpetuation is a very ancient one indeed. The inequality of a parasitic condition does not depend entirely upon the complexity of the relations between the species, for we find among the orchids adaptations limiting the fertilization of a species, have been described which render the extinction of a single insect in a neighborhood equivalent to the extinction of the orchid in the same area. It is probable that a variation of the more complex plants is much more rapid and extensive than the variation of the lower forms. For we find some of the lowest forms of plants and animals have existed throughout the course of geological ages, while the more complex forms rarely present evidences of so great a longevity.

When a parasite is wholly dependent upon its host for its existence it is said to be an obligate parasite. When a parasite is able with difficulty to live outside the host species upon dead animals or vegetable matters called a faculatative saprophyte, and when a species which ordinarily lives a saprophytic existence is able, under favorable circumstances, to become a parasite, it is called a faculatative parasite, although there are quite interesting relations existing between the faculatative saprophytes and their consideration has already occupied some of the time of this society.

Our tape worms are examples of obligate parasites. They cannot live outside the bodies of their hosts. They depend for their existence upon the fact that the carnivora devoured the herbiviora. The eggs of the tape worm are innumerable. They are scattered by the carniverous host in its fæces. The rains wash them into little pools and brooks and scatter them on the foliage and grasses. The herbivorous host takes them into the stomach in the water it drinks or on the grass and foliage it eats. The warmth and the secretions of the stomach free the embryos from the imprisonment of their egg shells. They cling to the wall of the digestive tract until they gain strength to force their way into the blood currents. There they remain until they are carried to the smallest capillaries in which they establish themselves, and for some unknown reason they prefer the muscles. Here they go into a sort of pupæ state to await the time when their herbivorous host will be overtaken and devoured by a carniverous enemy. In the stomach of the carniverous second host, the wall of the pupæ is dissolved. They are provided with hooks which attach themselves to the villi or deeper structures of the intestines.

Here they are bathed in a well-digested, nourishing material until they grow to a relatively enormous size and produce from each segment of their bodies millions of eggs to pursue a similar struggle for existence. What an enormous number of eggs perish because they never come into the proper host; what millions of encysed pupæ die in their calcified cocoons, what thousands pass through the intestinal canal without finding a proper place to attach themselves, all that a single mature and sexually perfect tape-worm may find a place in which to vegetate and procreate. What a wonderful cycle of existence is this, and what innumerable ages it must have required to develop out of the accidental indigestion of an articulate such a complex and obligate parasite. And what can be said of the parasites of the cat that live the first part of their existence only in the mouse, and of the tenias of the dog and wolf whose cysticurcus form is found in rabbits. How long did it require these specific forms to develop from original generic species. Unfortunately we can never know, but we must assume that it has been a very long time.

The relation of man to the domestic animals furnishes us the only aproximate measure of rapidity of these changes. Under domestication a few mammals, birds, fishes, insects, mollusks and some vegetables, have become so modified that they cannot be referred to any undomesticated species. How far back must man have begun to cultivate the banana which now is

*"The Origin of Species, Etc." New edition from the sixth English edition, New York. The Humbolt Publishing Co. Par. 415, p. 120. (560.)

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seedless and would perish as a species without his care. Surely so long ago that we need no other measure than centuries. But to have evolved a parasite with such complex and limited relations as those of the tenia, must have taken a much longer time. And how shall we explain the fact that the *Temocephala chilensis*, a small parasite on the legs of certain fresh water crustaceans of Chili which occurs identical in species in the Phillistines and in Java, on other articulates. Wallace has justly observed that such cases ought to be regarded as proof of the hypothesis that those types which have occasioned the similarity of remote faunas must have had a very long historical duration, persisting very likely through many geological epochs.* This perhaps calls sufficiently forcibly to our minds the antiquity of these forms of parasitism. Let us for a moment consider the origin of such forms of parasitism as tuberculosis and the other acute and chronic infectious diseases of man and animals. While some of them are still under dispute, tuberculosis, syphilis and scarlatina, are recognized as entities, and they are considered by all fair-minded and unprejudiced scientists and physicians as due to distinct and specific parasites, which parasites are, so far as we know, specifically different from any independent organism to which they are generally related.

Nor can it for a moment be supposed that the parasitic bacteria are in any other category in relation to the influence of natural selection than the parasites which belong to other and more highly differentiated orders of life. Indeed the very fact that the lowest and most slowly varying vegetables have become obligate parasites is an evidence of association greater in time than we should consider necessary for the evolution of the much more complex relation existing between the more rapidly varying articulates or infusorias.

It appears that the bacillus of tuberculosis is unable to grow on any accidental or artificial media under any presumptious natural conditions of temperature and external surroundings. It is able to multiply in man and in some other animals, and in a few related vertebræs. Therefore we may presume that, should it be deprived of a living host even beyond the few months during which its pores might retain vitality, the species would become wholly extinct and the world would be free from the ravages of this dreadful scourge ever afterward. The bacillus of tuberculosis is then an obligate parasite of the warm blooded animals. When we consider what specific means and how perfectly the bacillus of tuberculosis manifests this difference, and when we see how great is its geographical distribution, we are compelled to go back fur into the present geological epoch and probably beyond it for its origin.

In the bacillus of syphilis we have a still closer obligate parasite. So far as we know now it is confined to the primates alone. All attempts to convey it from man to animals, other than the quadrumana and to artificial media, have been equally unsuccessful. Here then is a peculiar parasite which finds in the intimate structure or other bodily conditions of all animals except a limited class, such conditions as are altogether inimical to its reproduction. We must then look still further back into the past for the origin from independent forms of a parasite so perfectly adapted to a limited host species.

In scarlatina we have an example of a parasite which is not only confined to a single species but for the most part to the young of that species. Perhaps the most unexplainable feature of this parasite is the fact that one attack renders the host immune to subsequent invasion. This fact is phenomenal, and so far as I know wholly without explanation.

Looking upon these obligate parasites of man as of such ancient association, going back beyond the present geological epoch for the beginning of syphilis, tuberculosis, measles, scarlet fever, small-pox, whooping cough, leprosy and every form of tape worm, how is it possible that man has been able to withstand the attacks of so many enemies for so long a time? The very fact that he has survived and that these parasites are unable to exist in any other media than his living body is conclusive proof that they are not essentially destructive parasites. Such a proposition appears to be axiomatic, but axioms occasionally need to be formulated. Against non-destructive obligate parasites we raise few barriers of defense. We entertain them from our abundance of vital resources until we pass them on to another host. Having once entertained some of them we are individually ever free from their intrusion during the rest of life. Others of them remain with us longer or come again and again.

How different from the mild course of syphilis, tuberculosis, leprosy and the acute infectious diseases, are tetanus, anthrax, malignant œdema and other forms of gangrene and the various wound diseases. Among domestic animals, when encouraged by overcrowding and filth, the saprophytic bacteria produce equally destructive diseases. Take for example Texas fever, hog cholera and raunchbrand. So, too, is it with yellow fever, Asiatic cholera, malaria and diphtheria, which are doubtless facultative parasites of man. To these rare and accidental parasites we have in our skin and mucous membranes a most careful and adequate protection. By the action of natural selection the door to invasion has been closed, but within we have no adequate means of defense. So when invasion does accidently take place and the usual saprophytes become parasites, the chances are greatly against the host in the conflict that ensues. The facultative parasites may or they may not be destructive, and it is probable that against but few of them has the action of natural selection rendered us indurate.

Then all obligate parasites are, without exception, examples of very ancient parasitism and they are essentially non-destructive to their host species, while facultative parasites may be destructive. Therefore there will be found a greater tolerance of obligate parasites and fewer barriers of defense to their invasion than to the invasion of destructive facultative parasites.

But, however, we may look upon some of the minor points of this argument, or whatever exceptions we may take to the illustrations, we may fairly agree upon the following predications.

1. All obligate parasites are without exception examples of very ancient parasitisim, and, what is of more practical moment, they are necessary non-destructive to the host species.

* Karl Semper, "Animal Life as Affected by Natural Conditions of Existence." New York, D. Appleton & Co., 1881, p. 293.

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It does not seem possible that this proposition can be disputed. Even if you ask how it is possible to cause smallpox, which formerly destroyed one-fourteenth of the entire population of Europe a non-destructive disease, I must reply that it is at present far less fatal. If you call attention to the fact that one-sixth of the death rate of some localities in our own country to-day is due to tuberculosis, I add that a large proportion of consumptives live long in a dustless atmosphere, even after the disease has made great headway, and that tubercular disease in the extremities is endured for years with impunity. I will, moreover, remind you of the fact that most cases of death from tuberculosis are really deaths from sepsis in the tubercular areas, and that acute tuberculosis is extremely rare.

We may trace out some of the other limitations of parasitism and the practical suggestions present themselves.

2. We need not alarm ourselves by looking for new and dangerous contageous diseases to arise, for it requires ages to develop an obligate parasite. The ease of infection with any obligate parasite will vary inversely with the inconvenience which the host will suffer from its invasion.

3. We should not expect any specific medications for the treatment of the diseases due to bacterial parasite any more than we should look for specific treatment for diseases due to tape worms or other articulate parasites.

4. Condition which seem clinically to be entitled to a single or but a single place in our nosological catalogue, may not be entities or identities, and therefore conflicting biological studies of the parasitic findings in these cases may be harmonized in time.

5. We should look for a greater number of perfectly harmless parasitic diseases and we should expect that these diseases would be exquisitely epidemic.

6. The great field of expectant medicine lies in the treatment of diseases due to obligate parasite, while the great field of preventive medicine is to be found in providing against infection with these facultative parasites.

The lesson derived from these conclusions is a simple and practical one. While the immunities that we have from the parasitic diseases is such that only a few of the weakest and most unfortunate perish, in many of them one attack protects from succeeding invasion, and, moreover, the wholly anomalous immunity to small-pox points out the probable preventive treatment for others.

Most of the fatal consequences of the obligate parasitic diseases are due to secondary infection with destructive facultative parasites, so that the treatment of these affections must be directed toward preventing those complications which are most to be dreaded. In our uninjured skin and mucous membranes we have an adequate protection against the invasion of the saprophytic bacteria, and there need be no alarm felt at the ingestion of these forms of life in unfermented material.

Dr. Weller Van Hook. Mr. President and members of the Society: The utility for applying the theory of evolution to the study of medicine has heretofore been chiefly confined to the investigation of embryology. In the study of the vertebrates the cranium is well known to have developed from a coalescence of four of the anterior vertebræ of the lower forms of life. The respiratory tract of man shows a relation to that of the earlier and simpler forms of vertebrate life, from the fact that in the human embryo we find a number of clefts which give rise to the neck and several of the important organs in the immediate vicinity. The eye is the ideal to which the early pigment spots in some of the very lowest forms of animal life seem to have aspired, and the very fact that we find in the eye some defects which seem to be racial in character, as for instance the imperfect achromatism of that organ would indicate an evolution for the eye.

The field which Dr. Holmes has ventured upon appears to me to be rather a new one for the application of evolution. The practical application of evolution heretofore limited to the study of the formation of certain tumors and of teratology, is now, I believe, to be applied with considerable success to solving some of the problems of parasitism which we have to consider in such great numbers.

Is there or has there been a necessity in nature for parasitism? There must have been in the remote past even if there is not now. Doubtless the closest competition existed between the various species and orders of life for the favorable conditions of environment. Evidently the highly specialized forms were better adapted to hold their ground under circumstances best fitted to their growth than the simpler forms. But the very fact that the lowest forms possessed the simplest structure, facilitated their self-adaptation to the least desirable environment.

The long-recognized law of physics that Nature abhors a vacuum, holds good apparently in biology and these low forms of plant and animal life, driven out of the most favorable vital surroundings have adapted themselves to the new and difficult conditions of parasitism. It is here that the primary doctrine of survival of the fittest finds application in the study of parasitism.

An interesting illustration of how an animal may become a destructive parasite under favorable conditions, is found in Wallace on "Darwinism." Before the colonization of New Zealand, a certain parrot was known by explorers to feed upon vegetable matter entirely—nuts, berries, etc. But after the advent of man to the island the bird was observed to prey upon bits of flesh which were attached to sheep-skins that had been hung up to dry. It was subsequently observed that these parrots, having thus acquired a taste for mutton, would alight upon the fleece of living sheep and peck their way down through the back to their favorite morsel, the kidney. Thus, under favorable conditions a harmless vegetarian animal may become destructively carniverous and, in a certain sense, parasitic.

An interesting question suggested by the title of the paper is that of the future tendency of evolution in man and his parasites. Are we to look forward in the future to an increase in the number of parasites affecting our race, or may we expect that man will conquer them entirely? This question must be approached from two sides: First, from that of the parasites; second, from that of man.

From the side of the parasites the question is, are these organisms capable of increasing the number of their species and furthermore, are the existing species capable of differentiating more extensive powers of

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invasion and destruction? Some of these points, very difficult to elucidate, have been touched upon by Dr. Holmes, at least inferentially.

But that man will hereafter be better able to resist parasitic invasion and to oppose parasitic destruction after infection has occurred, seems evident.

A point in favor of man in this connection is his inherited immunity. Man is by inheritance immune to many diseases which still affect other animals. And the race seems now to be passing through the process of acquiring immunity to certain other diseases. As an example take tuberculosis. We are invariably taught that in order to acquire this affection, at least in many of its forms, a predisposition is necessary. Would it not be more logical to suppose that those who do not readily acquire tuberculosis are immune to the disease by heredity—in other words that predisposition is lack of inherited immunity. If, then, an inherited immunity such as this is a positive fact, we may expect that the ordinary laws of evolution—on the one hand the law of the survival of the fittest, and on the other hand that of natural selection—will continually to a certain degree perhaps, entirely cut off from the list of our diseases the name of tuberculosis.

Evidently, however, the most potent fact in this struggle will be the influence of civilization. The study of biology is year by year being made more practically applicable to the prevention of disease and, while it would not be difficult to mention diseases which are now no longer universally terrible to man, it is probable that the future will still further increase their number.

There is another phase of this question that I would like to propound, not expecting an immediate answer, one which I think it would be profitable for some one to dwell upon at some future time, who is well read in paleontology and who at the same time has made a minute study of the theory of Darwin. Dr. Holmes has told us that according to all the laws of Darwinism, according to every point in the theory of evolution, the infectious diseases which now affect man must be of very ancient origin. He has demonstrated that it must have been many geological eras since parasitism first began in man. The question I would ask is this: Should we not regard the entire matter of parasitism of the lower forms of life upon man as an anachronism—a hold-over relic, as it were, from the past ages, which we may expect will be entirely removed? It is certainly in direct contradiction to the general law of nature that the lower forms of vegetable life are to be utilized in the furnishing of food products for the higher forms of life; that their service in nature is to develop from the inorganic matters of earth and air such products as will suffice as food for the higher forms of life.

Dr. J. J. M. Angear: Mr. President: I have been listening with considerable interest to the paper, but I must confess that I fail to see the argument, or evidence of evolution in the paper. We all know, since Darwin has taught us, that the bumble bee carries the pollen of the red clover, that the field mice destroy the bumble bee's nest, and the cats are the enemies of the mice; I can recognize the great law of dependences and checks to the too rapid increase of the enemies of a family. We must remember that the cats are not the only enemies that the field mice have. While the clover depends upon the bumble bee, perhaps not wholly, the cats, owls, etc., are necessary to check the increase of the field mice, else the bumble bees may all be killed, and by having the bumble bees the clover is saved from extinction. We readily see the necessity of this Malthusian law of nature, but where is the evolution? Because the bumble bee fertilizes the red clover I do not see that the clover becomes anything but clover, or because the cats kill the mice I fail to see any evidence that the cats or mice become anything but simply cats and field mice.

Because some parasites are immature and sexless in one animal and mature and productive in another is not evidence of evolution, but it does show a mutual dependence. The aquatic plants are dependent upon an abundance of water, while the terrestrial plants may be killed by too much water; some animals depend upon vegetables and others upon animals. The title of the paper is misleading and not appropriate.

The next point I wish to call attention to is calling bacteria parasites. The true parasite is a living organism, which kills by causing irritation and all its consequences, inflammation, convulsions, etc., or abstracting nourishment and thus impairing functions, or destroying the tissues and organs. While bacteria causes a ferment which produces a poison and the poison kills, and not the bacteria. Bacteria in the urine converts the urea into carbonate of ammonia. It is the ammonia which produces the cystitis, not the bacteria. There are a very few of the microbes that are parasites. I will not go into details, but simply call attention to the fact that we must make a distinction between those living organisms which kill by their presence and those which cause a ferment.

Dr. Bayard Holmes: I have often presented papers before this society that I regretted very much that it was necessary for me to inflict upon you, but this one was especially difficult for me to present, and for you to endure, yet I have so frequently heard unintelligent remarks before this society in regard to the relation of bacteria to the human body that I was in hopes that I could, in this paper which I tried to make as short as possible, bring out two or three points. One point I believe I have made fairly clear to you is that the origin of parasitism is remote; and the second point is that this remote form of parasitism which is enabled to live in no other nutrient material than the human body and its alies, is a non-destructive parasite—not to the individual but to the species; and that the destructive parasites are found for the most part among those that we would term accidental parasites.

I am very greatly obliged to Dr. Van Hook for his discussion of the paper, and also for the eloquent manner in which he has done it. He has brought out many points which are not only more rudimental than my ideas were, but also points which were inferences from the general drift of the argument. I believe the proper direction in which study is to be made is not to look for parasites for each special disease; for instance the disease Dr. Brown presented to-night, or some form of iritis, and so on; not to look for some special bacteria producing these diseases. We have a swarm of antiseptics, or some other form of medication, to be introduced into the lungs as specifics for the different forms of disease, and I look with the greatest sorrow upon the different forms of apparatus which are put upon the market to be sold and used against tubercular diseases of the lungs. It seems to

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me that we have in the advertisements in the street cars and depots and other public places, for germicides and bacillicides, a most melancholy comment upon the medical profession. I feel that we are primarily responsible for educating the people to believe that all disease is due to some germ, and that if we could only put some antiseptic upon it we could cure the disease. If I did not tire you with this subject I should endeavor to bring the principles of infection before you in such a way that we would not have—at least in this society—such talk as we heard the other night in regard to an antiseptic fountain for mineral waters.

In regard to evolution: This is no place to argue it; it was argued long ago and the facts are so conclusive that no amount of ridicule can ever move them one inch; in fact anybody's case that is so poor that he needs to call ridicule in for his principal argument is a very poor case indeed.

I thank you for your attention, and hope I may have an opportunity at some future meeting of presenting the second part of this subject.

Dr. Charles T. Parkes. Mr. President, members of the Society: I have no set paper to present to you to-night, but will merely report a few cases. I present these cases as showing very plainly the difficulties occasionally attending the operation of herniotomy, and because it is rather unusual for one to have this special experience in so short a time.

The first case I present was operated upon Nov. 17, 1889. A diagnosis was made of incarcerated hernia in a Norwegian lady 48 years of age, whose hernia had been down for three days. Several attempts, moderate in the amount of force used, had been made to reduce it, but had all failed. I was called to see the lady on the third day in the evening and found her in the condition of collapse common in cases of strangulated hernia. There was present, locally, a large swelling over the right inguinal region, œdematous and red on the surface. The local conditions rather indicated the probability of finding inside the sac gangrenous intestine. This lady was put to sleep and the ordinary incision made freely over the surface of the tumor, and cutting down to the deep tissue it was found to be gangrenous; the sac was opened and quite a quantity of fluid discharged from it and inside the sac was a mass of intestine as black as ink, yet there was a peculiarity about it which made me think it was not dead, that is, it was glistening. The peritoneum was neither abraded nor shriveled, so I concluded that perhaps the best plan to adopt would be the one recommended by Dr. Bryant, of London, who says that in doubt in these cases the best place for the intestine is inside the abdomen; so dividing the stricture very slightly I succeeded in returning the intestine into the peritoneal cavity. It is a rule with me to do the operation with a view of preventing the patient from having a subsequent hernia, that is, to perform the operation for radical cure, which consists in removal of the sac and omentum. The sac was so dead that with my fingers, without scissors or knife, it was very easy to separate it from the surrounding tissues, pull it down and divide it. I was a little doubtful about that piece of intestine, so I provided against the possibility of trouble from perforation by not attempting to close the wound at all, but I packed into the peritoneal cavity a good, thick layer of iodoform gauze. This case went on without difficulty until the twelfth day, when I was informed something was coming out of the wound. The dressing had been changed but once, on the fourth day, when the external dressing was removed. On the twelfth day I removed the dressing and found a little discharge of foul-smelling serum; I removed the packing and there followed out a little flow of fecal matter, this was cleaned away thoroughly and the cavity repacked with gauze. The case went on until at the end of the seventh week she was entirely well.

This has been my experience in these cases in which the opening is small and the intestines close to the abdominal wall. There comes a question in cases of this kind whether, in these days of antiseptic surgery and interfering with everything, we are not a little too apt to say that the best thing to do is to make a resection, pull out the intestine and divide it into the healthy tissue, sew it up and let the patient get well. But do they get well? I do not believe the majority do. I believe the best procedure is this one, where the wound is kept open for the discharge of the dead parts, allowing nature to close the opening by granuiation.

The next case was met with on January 2d, '90. This was a young lady 29 years old who had suffered with all the symptoms of a persistent inguinal hernia. The hernia came down and she wore a truss for a short time but could not wear it long, it was so painful. The hernia was frequently more painful when returned than when left outside, but when in the right position, about half way out, not strained by being out too far or in too far, she had the most comfort. I had no suspicion of the case being unusual in character, but supposed it was an ordinary case of hernia with perhaps a lump of omentum dense and hardened, as we frequently find it, and so made the incision without hesitation. When I opened the sac and found what was in it I was astonished—I found an ovary. The ovary could be partially returned to the abdominal cavity, but a part of it was outside of the ring and was so attached that it could not be pushed in entirely. Here was an unlooked for circumstance; what was best to be done? It has been my experience that in attempting to do a radical operation for hernia it is absolutely necessary to remove any foreign body that has a disposition to protrude with the hernia except the intestine. Here was an ovary that was disposed to be out most of the time, and unless this body was removed the hernia would be apt to return, no matter what operation was done for its cure.

The ovary and tube were attached to the sac half way out; its detachment would be uncertain, so I concluded to remove the entire organ. The case went on without rise of temperature and in two weeks she was on her feet. This is the second case I have met with of ovary in a hernial sac. I have another case under inspection where I am certain the trouble is dependent on the presence of an ovary in a femoral hernia. When it is down during certain periods of the month it is swollen and more than usually painful.

The next case came under my charge January 23d. This case was exceedingly peculiar in character; a woman 28 years of age having had rather uncertain symptoms of hernia for a year.

The day before I saw her she stooped suddenly and the hernia was protruded and she was not able to reduce it; it became very painful and she showed

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symptoms of strangulation. I saw her in consultation. I found a protruded mass in the right inguinal region, and notwithstanding the fact that only 24 hours had passed this protuberance was very tender to the touch and was beginning to show a little redness of the surface. We put her to sleep and did the ordinary operation, cutting through a very thick layer of fat down through the deep fascia, and uncovering a little protruding mass about as large as an egg and perfectly black. The sac itself was dead because of the perfect constriction of the parts and the sudden protrusion. A foul smelling fluid was discharged and then something was seen in the sac, supposed to be the small intestine. Examining more carefully there was found sticking from the top of the protruding mass this enterolith, about the size of a grain of coffee; the intestine, when examined closely, was found to be the appendix vermiformis. This case is unusual in the first place on account of the rapidity with which the symptoms came on; the death of the sac and its contents is unusual in that it is supposed to be a fact that hernia of the calcum and especially of the appendix vermiformis, does not occur except in cases where there is no sac formed; here there was a sac and it was dead. The only thing to do was to take it away, of course. So the vermiform appendix was separated as close to the wall of the bowel as possible and tied with a piece of silk and packed around with gauze. Each tissue was divided with the scissors and the mucous membrane destroyed with 95 per cent carbolic acid. The wound was packed with iodoform gauze. This case went on to perfect recovery.

The next case occurred January 29th, and was of four months' duration. A young man had quite a large lump in the left inguinal region in the neighborhood of the external abdominal ring. It was supposed to be a hernia coming on after sudden lifting of some kind. The physicians in attendance returned the hernia several times, but all of it would not go back, and finally getting into an inflamed and tender condition it was thought necessary to do some operation. I supposed I was going to operate on something peculiar in character and expressed my doubts as to finding anything like a hernia. I made an incision down upon the parts and exposed the seat of the trouble, which I found to be several large lymph glands destroyed and in process of destruction, and which could be lifted out by means of the fingers and the cavity of the ring exposed, but no hernia was to be found. It was a mere mistake in diagnosis, and it shows that these mistakes can be made and that we should carefully consider all the conditions in making a diagnosis.

The next case was a young man 24 years of age who has been troubled since childhood with hernia. A hernia which he has been able to control a part of the time by means of a truss, but lately he could not control it at all. It has come down several times and given him a good deal of trouble and pain, especially when traveling. Physicians in different parts of the country to whom he has applied have had some difficulty in returning the hernia, and finally he came to me for the purpose of having a radical operation done. In this case there was an undescended testicle, and when the sac was opened this organ was found undeveloped and with a disposition to come partially down into the canal and sometimes to fall back into the intestinal cavity again. The sac was so intimately attached to all the surrounding tissues that it could not be released without removing the organ, so it was entirely removed and the sac cut off. The patient went on easily and rapidly to recovery.

If I should say any thing at all about these cases in addition to the mere history of them, it would be simply to give you my experience with reference to operations of a radical character in hernia. I have come to the conclusion that it does not make a particle of difference what kind of operation you do, whether you sew up the walls of the external adominal ring or not, whether you turn the integument in or not, put on the lace stitch or not, or pick up the sac and carry it into the ring, that you will fail in a few cases no matter what the operation is, in radical cure of hernia, just as in radical cure of any thing else; there are failures following all attempts at cure. But I am quite satisfied in my own mind that in most cases failure is due to one of two things: First, the perfect and absolute removal of all particles of the sac, so far as the inguinal and femoral canal is concerned. It is necessary to pick it up and dissect it as a distinct tube up into the canal and internal ring and there fasten it out of the way. If you fail to do this the hernia is likely to return. The next thing it is absolutely necessary to do is to remove all the substance in the neighborhood which has a disposition to come into the sac, except of course intestine. There is a tendency on the part of the omentum to force its way through the smallest possible opening; it will apparently come out of an opening through which the fluid of the peritoneal cavity will not flow; if there is a depressions in any surface of the abdominal wall, it will force itself in and be the principle cause in producing the hernia. So in all cases where herniotomy is done, if there is any omentnm in the sac or in the neighborhood it should be picked up, pulled out and divided. There will be no harm done if care is taken to prevent hemorrhage.

CORRESPONDENCE.

CHIPPEWA FALLS, Wis., March 27, 1890.

Editor Reporter:

The Medical and Surgical Register of the United States, vol. ii, published by R. L. Polk & Co., cannot help but to disappoint every practitioner, who expects to be saved by it, in his endeavors to ascertain anything near to a correct information as to the value and professional standing of the members of the medical profession.

I have examined the book quite carefully, and have found that the most pronounced quacks and ignoramuses, in fact *brutes*, are classified among the respectable physicians, and some celebrated universities in Germany and other foreign countries are disgraced with the fraternity of these bastards. Not a few "cancer doctors," chiropodists, specialists of "Geheime krankheiten," and abortions, and public vermin of all sorts are placed in the columns of this *authentic* register as Physicians and Surgeons, and graduates of some venerable school, or even university.

In cases where the conscience of the charlatan was yet more tender and timid than that of the greedy agent of the firm of R. L. Polk & Co., we see a star behind the name of the yet-scrupulous impostor. There are signs indicating non-graduation, and illegal

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practitioners, but I have failed to find any of these signs attached to any of the names on the lists. To facilitate the work for the next register, I would like to advise the greedy agent to come to our town and stop at some public corner and watch for the Doc(g)'s as they pass by, and there is no doubt he will enlarge not only his list of names, but also his advertising business.

It seems as if we pay $5 for a book, we ought to have justly and correctly what we expect, and what is promised to us by the publishers. If we want to employ a chiropodist, or a horse doctor, we ought not to be humbled by his bribed dignity, and per chance lose, through hesitation arising therefrom, a toe, or, in the latter case, a horse or cow.

A suggestion: The medical profession, by means of its societies, should appoint regular censors throughout the land, whose careful reports should constitute the *summa summarum* of all practitioners, showing them in a true and correct light.

Before I close I want to say that I have personally no complaint to make, and it is, therefore, not egotism that induced me to this censure, but unselfish, open and honest indignation against frauds and dishonest money schemers. MEDICUS.

Indian Medical Superstitions.

To the Editor: On my western trip to the State of Washington, well-known for its beautiful scenery, I was one day suddenly surprised by a strange and most impressive scene. My guide was gifted with both ideality and remarkable descriptive powers, and pointed out all the charming attractions that surrounded us in a most interesting manner. After we had climbed a very prominent, high peak and reached the top, nature unfolded before our eyes a most wonderful view. On the opposite side towered a gigantic figure resembling a human form which my guide called a western "Hercules." Below the peak and in front of this natural statue lay a beautiful valley, interesting from a botanical point of view, a park of wild flowers, which was, my guide informed me, full of canterbury bells, and was, on that account, called Bellfield. These bluebells exude a poisonous substance. My guide related a tradition concerning its effect on an Indian medicine man, current among the superstitious Indians, who formerly inhabited this region. The story ran, that the said medicine man was a very conceited, contemptible person, who labored under the delusion that he had reached the culminating point, and consequently wanted all surrounding tribes to regard him as an oracle, knowing more than did any of his fellow creatures. This medical mongrel approached the statue one morning at sunrise and eagerly implored the Hercules to assist him in his efforts to crush every one who attempted to stand in his way, but he failed in his foolish attempt. By some natural eruption the statue was shaken and lost its former imposing appearance, and at the same time the medicine man lost much of his arrogant self-conceit. Besides the bellflowers there were many known plants in this valley, skunk cabbage and different grasses; particularly Boodle grass, to which the medicine man paid great attention, and used as a charm, believing that it would help him in carrying out his plans for future aggrandisement, but he was abhorred by his tribe and finally died from too free use of the Bellfield canterburys.

G. C. PAOLI, M. D., *Med. Stand.*

Western Medical Reporter.

A Monthly Epitome of Medical Progress.

JOHN E. HARPER, A. M., M. D., EDITOR.

G. FRANK LYDSTON, M. D., ASSOCIATE EDITOR.

Subscription, $1.00 a year; to Europe, $1.25.

Entered at Chicago post office as second-class matter.

THE EDITOR would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information should be accompanied by the full name and address of the writer, although not necessarily to be published. All communications should be addressed to

WESTERN MEDICAL REPORTER, 163 State Street, Chicago.

What We are Here For.*

Once as I walked upon the street,
A wrathful wight I chanced to meet,
Who beat his fists and loudly swore,
'Twas plain to see that he was sore.
I then did ask that man of sin,
What in creation ailed him,
That he should rave and tear his hair,
And stamp and kick and loudly swear.

A paper then he shook at me,
A form you've seen quite frequently.
A statement huge of monthly dues,
(No wonder that the man had blues.)
The bill was one I'd sent to him,
In hopes that he might yield the tin,
Or me invite to share his crop
(This scheme would fit me like a top).

"Oh cheeky man!" he loudly said,
"I'm tempted quite to punch your head.
As a reward for your great gall,
I'll never pay your bill all.
"Thy monthly dun, oh man of pills!
My chivalric soul with anger thrills;
Thy dopes are gone, I need them not,
Thy puke and purge alike forgot.
"Thy capsules, tough, long passed through me,
For powders foul no use I see.
I took them once, alas! 'tis true,
But I have now no use for you."

I mildly took this vile abuse,
And leaving him did sadly muse
Upon our most unhappy lot,
Who bonds and gold galore have not.
'Twas ever thus since earth began,
That patient doth the doctor damn.
Unhappy cuss who seeks his fee
For work he's done so frequently,
Mid kicking hard and great turmoil,
That my hot blood doth fume and boil.

The doctor meek, unlike the worm,
Doth ne'er upon his debtors turn,
But plods along both night and day
And constantly doth watch and pray,
For better times that—never come,
E'en when his youth and strength are gone.
But when, like dog he's had his day
And his poor soul hath passed away,
His pitying friends on kindness bent,
May buy for him a monument.

And doctors young and doctors old,
Tho' sore thy need of sordid gold,
Remember when you're feeling blue
The great reward in store for you,
The vision may thy mind give ease,
The dread of death, perchance appease.
Some medic friend in tearful mood,
May tell the world how very good,
The dear departed doctor was,
And thus win for himself applause.

And so you see, there is, indeed,
No cause to worry o'er the need,

*Inspired by the glowing Obituary Department of *The Mirror*.

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When thou hast left this world of strife,
Of food for child, or dress for wife.
Oh, friendly taffy is so sweet,
'Tis clothes to wear and grub to eat.
And when old Gabe doth stir thy bones,
More potent than a thousand tomes,
Thou'lt find spread open at thy feet
Fulsome praise and phrases neat,
To sooth thy resurrected soul,
More cheering than the flowing bowl.
Thy name in colors bright thoul't see
That endureth to eternity,
For in ye MIRROR's bright reflection
All faithful doctors are perfection. LYD.

—Medical Mirror, March, 1890.

St. Louis Medical Societies.

Our sister city is favored by an exceptionally energetic and capable set of medical men. A visit to her societies will make this manifest. The old St. Louis medical society has done excellent work and has made an enviable record. Among the newer societies is the Academy of Medicine. This organization is composed of pushing, energetic men, who have in many instances made a name for themselves, and all of whom are striving hard to make the academy a success. Judging by our experience during a recent visit to this organization it is already making itself felt in medical matters. Like that of other cities, the profession of St. Louis is occasionally swayed by discord and antagonism, but for a' that the St. Louis doctor is a whole-souled, genial fellow. We hope in the near future to become better acquainted with him.

L.

The Kentucky State Medical Society

Met at Henderson, Ky., May 14-15-16. A large number of physicians were in attendance and the meeting was unusually interesting and successful. The public address was delivered by invitation by Dr. G. Frank Lydston. Subject: "Materialism *vs.* Sentiment in the Study of the Causes and Correction of Crime.

Recovery from Chronic Catarrh of the Middle Ear, Simulating Deaf Mutism.

Dr. Wm. E. Conroy, in *Medical Age:*

Frederick A., aged 7 years, was brought to Dr. C.'s office May, 1889, by his mother, who stated that until the child was two years old he was in full possession of all his faculties, and unusually quick and intelligent, talking in the usual two-year old style of speech. About that time it was noticed that his sense of hearing became less acute, without apparent cause; also the faculty of speech was arrested, the few words learned previously being forgotten. Since that time he had had no serious illness, and, with the exception of very loud noises, was completely deaf.

Previous to her visit she had visited a physician who had removed quite a quantity or inspissated cerumen, very hard and closely packed, and advised further treatment.

Experiment proved that the child was not totally devoid of hearing, but he could not, or would not, articulate words. Examination of the ear revealed A. D. auricle and meatus normal; ment. tymp. sunken and of a pearl gray color, except at posterior inferior quadrant, where a perforation of about 1 mm. in diametic was surrounded by an area of congestion. The edges of the perforation were dry, and there was no pus or mucous to be seen in the ear. The eustacean tube was impervious to Politzer's method of inflation.

A. S. auricle and meatus normal; ment. tymp. sunken aud dull; Eustachian tube impervious; pharynx and posterior nares and mucous membrane thickened and relaxed, and nearly covered with tenacious mucus.

The diagnosis of chronic naso-pharyngeal catarrh, involving the Eustachian tubes and middle ears, was certain, but in spite of the fact of the boy remaining deaf and dumb for five years, Dr. C. was inclined to give encouragement.

The catarrhal condition of the naso-pharynx was treated, and the healing process going on in the perforated drumhead aided. The mother was instructed to train the boy in the use of his voice, and force him to *ask* for things that he craved.

Success was immediate, and exceeded all anticipation. In three days the tympanum could be inflated by Politzer's, and in less than two weeks he could articulate distinctly enough to be understood and hear conversation at twenty feet. He returned home at this time, when the physician in charge previous to this visit again took charge of the case, and reported daily improvement.

Book Reviews.

"Spinal Concussion," by S. V. Clevenger. In one handsome Royal Octavo volume of nearly 400 pages, with 30 wood engravings. Net price, in United States and Canada, $2.50, post-paid; in Great Britain, 11s. 3d.

In view of the large number of hackneyed works on the various branches of medicine which are being continually foisted upon the profession by publishers of dubious honesty, a book like that of Clevenger's is decidedly weleome. It is by long odds the best work on spinal concussion extant. For more than twenty years this subject has occasioned bitter contention in law courts between physicians as well as attorneys, and in that time no work has appeared that reviewed the entire field judicially, until Dr. Clevenger's book was written. It is the outcome of five years' special study and experience in legal circles, clinics, hospital and private practice, in addition to twenty years' labor as a scientific student, writer and teacher.

The literature of Spinal Concussion has been increasing of late to an unwieldy shape for the general student, and Dr. Clevenger has in this work arranged and reviewed all that has been done by observers since the days of Erichsen and those who preceded him.

The different and sometimes antagonistic views of many authors are fully given from the writings of Erichsen, Page, Oppenheim, Erb, Westphal, Abercrombie, Sir Astley Cooper, Boyer, Charcot, Leyden, Rigler, Spitzka, Putnam, Knapp, Dana and many other European and American students of the subject. The small, but important work of Oppenheim, of the Berlin University, is fully translated, and constitutes

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a chapter of Dr. Clevenger's book, and reference is made wherever discussions occurred in American medico-legal societies. There are abundant illustrations, particularly for electro-diagnosis, and to enable a clear comprehension of the anatomical and pathological relations.

The chapters are: I. Historical Introduction; II. Erichsen on Spinal Concussion; III. Page on Injuries of the Spine and Spinal Cord; IV. Recent Discussions of Spinal Concussion; V. Oppenheim on Traumatic Neuroses; VI. Illustrative Cases from Original and all other Sources; VII. Traumatic Insanity; VIII. The Spinal Column; IX. Symptoms; X. Diagnosis; XI. Pathology; XII. Treatment; XIII. Medico-Legal Consideration.

Other special features consist in a description of modern methods of diagnosis by electricity, a discussion of the controversy concerning hysteria, and the author's original pathological view that the lesion is one involving the spinal sympathetic nervous system. In this latter respect entirely new ground is taken, and the diversity of opinion concerning the functional and organic nature of the disease is afforded a basis for reconciliation.

Every physician and lawyer should own this work.

The "Essentials of Forensic Medicine, Toxicology and Hygiene," by Dr. C. E. Armand Semple. W. B. Saunders, publisher, 913 Walnut street, Philadelphia.

This manual, touching as it does briefly and concisely upon such comprehensive and difficult studies, renders it of more than ordinary value to the physician as well as the student.

"Synopsis of Human Anatomy." Being a complete Compend of Anatomy, including the Anatomy of the Viscera, and numerous tables. By James K. Young, M. D. 393 pp.; price, $1.40. Philadelphia and London: F. A. Davis, publisher. 1889.

The above, as its name implies, is a concise synopsis of human anatomy, and as a book of ready reference is valuable. Too many works of this kind cannot fail to be of incalculable help in so difficult a study as anatomy.

"On Disordered Digestion and Dyspepsia." By Frank Woodbury, A. M., M. D., Fellow of the College of Physicians of Philadelphia; Honorary Professor of Clinical Medicine in the Medico Chirugical College of Philadelphia, etc., etc. 12mo, pp. 82. Detroit, Mich.: George S. Davis. 1889. Price, in paper, 25 cents; in cloth, 50 cents.

To the Physician's Leisure Library, is the practitioner indebted for this little handbook. Many suggestions are offered as to the best methods of treatment; also hints as to diet. As dyspepsia is generally charged with many of the ills that flesh is heir to, any additional light on the subject, however small, is welcome.

"A Manual of Chemistry," for the use of medical students. By Brandreth Symonds, A. M., M. D., Assistant Physician to Roosevelt Hospital, Out-Patient Department; Attending Physician, Northwestern Dispensary, New York. P. Blakison, Son & Co., 1012 Walnut street, Phila., publishers. 1889.

The author has endeavored to embrace in this work such parts of medical chemistry a medical student would require necessary for admittance to the best colleges, or to enter the government service. It is just the work needed by such students, who will find it admirably adapted to their needs.

Mrs. McPhe—"Phat's dthe matther wid yure man the day, Mrs. O'Hay?"

Mrs. O'Hay—"He hild dthe dhrill fur two cross-eyed Oitalians, an' dthe doctur sezs its nervous preparation he has."

New Manual of Alkaloidal Therapeutics.

From the French of Dr. Ad. Burggraeve.

Translated by C. C. P. Silva, M. D., Prof. Therapeutics, College Physicians and Surgeons, Chicago; Prof. Therapeutics, Chicago Ophthalmic College; Prof. Gen. Medicine, Chicago Polyclinic, and W. T. Thackeray, M.D., Member Amer. Med. Asso., Ill. State Med. Asso., Amer. Phar. Asso., Iowa Phar. Asso., Chicago Med. Soc.

Entered in the Office of the Librarian of Congress, Dec. 1, 1887.

Note.—Tuberculous meningitis is generally mortal; or if we succeed in moderating it, it terminates by hydrocepualus, idiocy or epileptiform convulsions. Nevertheless, the physician is obliged to employ all the means which science places at his disposal.

MYELITIS.

Subject—Symptoms.	*Treatment.*	*Observations.*
Age 36 years. Tactile sensibility exaggerated, especially in the inferior extremities. Painful shocks radiating along the spinal nerves. Tingling.	Sodium arseniate, cicutine [a granule of each four times a day].	In order to modify the sensibility and nutrition of the spinal cord.
Erotic sensations. (This period may be prolonged during a considerable time.)	Camphor monobromated [one granule morning and evening].	Against genetic excitation.
Impairment of movement. Nervous insufficiency. Dyspnœa, dysphagia, dysuria, etc.	Strychnine arseniate [three granules per day].	In order to awaken the innervation.

Note.—Sclerosis being the consequence of myelitis, we understand that the vital or dynamic incitants are powerless in this last period of the disease. Nevertheless, as all the segment of the cord may not be involved, the treatment by the arseniates may still be continued. It is our duty in this case, to recur to the external excitants—moxa, ironing. However, we must be very prudent, because of the congestions which may declare themselves in the already hyperæmic cord.

NEURALGIAS.

Periods—Symptoms.	*Treatment.*	*Observations.*
1st Period. Tensive or lancinating pains along the nerve attacked. Pulse stronger on the suffering side. Neuralgic fever precedes the paroxysms.	Sodium arseniate, quinine arseniate, aconitine [one granule of each four times a day].	In order to modify the nutrition and sensibility of the nerve.
2d Period. Gradual enfeeblement of the part affected. Locomotor ataxia.	Strychnine arseniate, iron arseniate, antimony arseniate [three or four granules per day].	Against anemia. Against rheumatic diathesis.

Note.—It is this diathesis which produces, more often the neuritis, or neuralgias. Likewise it is necessary before all, to try to modify the nutrition of the diseased nerve. Antimony arseniate should therefore be given the preference in these cases. It has particularly the effect of forwarding interstitial absorption, and of thus preventing sclerosis or hypertrophy of the intercellular substances, with atrophy of the normal histological elements.

OPHTHALMIAS.

Species.	*Symptoms.*	*Treatment.*	*Observations.*
Conjunctivitis.	Lacrymation, heavy pain, paroxysmal fever.	Quinine hydroferrocyanate Emollients.	Against the paroxysmal fever.
		Afterwards astringents—zinc, tannin.	Against relaxation of tissues.
Sclerotitis.	Sharp, shooting pains. Photophobia.	Sodium arseniate, veratrine, aconitine [one granule of each every hour].	In order to modify the nutrition and the sensibility.

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Species.	*Symptoms.*	*Treatment.*	*Observations.*
Iritis.	Supra orbital pains, deformation of the pupil. Vomiting.	Atropine, veratrine. Mercury proto-iodide.	Against spasm and congestion. Against syphilis.
Choroditis.	Distortion of images. Amblyopia.	Sodium arseniate, seidlitz salt.	Against the hæmorrhoidal state.
Retinitis.	Sparks, scintillations, black spots, amaurosis.	Phosphoric acid, strychnine sulphate gradually increased to twenty granules per day.	Diffusible excitants—ammonia.

NOTE.—The anatomical localization of the tissues is here very important, in order to determine the treatment.

LARYNGITIS.

Species.	*Symptoms.*	*Treatment.*	*Observations.*
Simple.	Pain in the larynx on pressure. Voice hoarse, cough dry, spasmodic. Febrile paroxysm at night.	Aconitine, quinine, hydroferrocyanate [one granule of each every half hour].	In order to prevent exudations.
Croupous.	Malais, anxiety, respiration whistling, metallic cough. Paleness of the face when free from the paroxysms. Pulse small. Dyspnœa	Strychnine arseniate quinine arseniate [one granule of each every half hour]. Sulphide of calcium.	Against asphyxiating paroxysms. Against dyphtheria.

NOTE.—Croupous laryngitis appears to be due to micro-organisms of the genus oidiums. It is the same in whooping-cough, which is a laryngitis of paroxysms, and which subsides under the influence of aconitine and quinine hydroferrocyanate, and which calcium sulphide modifies advantageously, in a manner which renders the attacks less fatiguing.

HEPATITIS.

Subject—Symptoms.	*Treatment.*	*Observations.*
Age 46 years. Sharp pain, augmented by superficial contact, radiating towards the right shoulder and right groin. Deep, profound pains. Icteric tint. Vomiting, constipation. Stools clayey. Paroxysmal fever.	Emollient baths, cupping, bleeding, Veratrine [one granule every half hour]. Seidlitz salt. Podophyllin [one or two granules per day]. Quasseine, hyoscyamine [of each one granule at meal-time]. Arseniate of quinine.	Against itching of the skin. As a refrigerant. Against the icterus and constipation. Against periodicity.

NOTE.—Hepatitis has the effect of causing torpidity of the liver, and consequently chloræmia. This is characterized by a depression of the pulse and of the temperature, and often is the cause of very rebellious paroxysmal fevers. In marshy countries hepatitis is very frequently the result of the palludal diathesis. Quasseine, quinine arseniate against the diathesis, and hyoscyamine against the icteric spasm, are the means indicated in this species.

NEPHRITIS.

Species.	*Symptoms.*	*Treatment.*	*Observations.*
Intersticial.	Renal pains. Urine scanty and dark. Fever intense 106 deg. F. (41 deg. C.) Vomiting, retraction of the testicle.	Sodium arseniate, cicutine, atropine [a granule of each every hour].	Against the pain and spasm.
Albuminuric.	Fever, eclamptiform convulsions. Urine albuminous. Tendency toward dropsy.	Veratrine, arseniate of iron [a granule of each every hour].	Against the anemic fever.
Glycosuric.	Slight pains in the kidneys and along the vertebral column. Urine copious (with or without sugar). Thirst intense. Skin hot and dry. Marasmus, consumption.	Saline regime Arseniate of iron, digitaline. Arseniate of antimony.	Against the paroxysms. Against the muscular pains.

NOTE.—The doses which we indicate in these tables—as of the rest in the course of the manual—are not absolute. It is for the physician to judge as to how far he may go. In the acute diseases it is necessary to act blow upon blow. In the chronic diseases it is necessary to proceed gradually; allowing the eliminative absorption time for action. We say eliminative, because the morbid products, in order to be eliminated, should first enter into the circulation. We except catalyses and those chemical decompositions which occur directly in the blood, and to which the secretory organs act as still worms—as the kidneys, for example. But whatever the nature of these chemical operations, the intervention of the vitality is always necessary. Stahl was correct when in order to explain the iatro-chemistry of his time, he invoked the vital spirits. This was the opinion of all the great physicians of antiquity including Galen, in spite of his humoralism. Everywhere, therefore, the vital incitants are necessary. Given a colitis or intestinal obstruction, which may go on to *miserere*—to employ physical agents such as quicksilver and the oils—without recurring at the same time to the dynamic agents; such as strychnine, and hyoscyamine would be to give a pitiful proof of his medical science; or rather, it would be to accomplish the work of a drainer.

TREATMENT OF THE WOUNDED.

To-day, every physician is a surgeon. Without applying himself to those great operations which are the province of the specialists, he should be able to give his attention in ordinary cases, and to conduct them in a manner to prevent complications.

For it is not so much the accident which is the cause of death as an unintelligent or mercenary treatment.

Every day we see individuals overtaken by grave injury, others having submitted to terrible operations, and who meanwhile escape death by the methodic dressing and a medication vital or dynamic. (For in surgery, as in medicine, nothing is left to hazzard; it is not that some surgeons are lucky, and others unlucky; as in war, the victory belongs to those which have knowledge to provide everything. The art of healing is a continual battle against disease).

We should therefore consider in the treatment of the wounded, the external means or the dressings, and the internal means or the diet and medicaments.

EXTERNAL MEANS.—DRESSINGS.

We know the device of Ambroise Pare: "Je les pançai et Dieu les guerit."

The fact is that if the great surgeon had not given so much care to his wounded, very few would have recovered. Called to the siege of Metz, his presence was a veritable moral re-victualling: the troops regained courage, and the siege was raised by the assailants.

Admirable result of science! For it was not a question solely of moral influence; the soldier knew when wounded, he would find help, and that the treatment would not be worse than the wound itself.

Before Ambroise Pare -in effect- the injured by fire arms or arquebus—as we name them—were treated with boiling oil and tow tampons.

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ORIGINAL ARTICLES.

Recent Advances in Surgery.

BY ARCH DIXON., M. D.

Report of the Committee to the Kentucky State Medical Society at Henderson, Ky., May 15, 1890.

Mr. President, and Gentlemen of the Kentucky State Medical Society:

To attempt a general report upon a subject of such vast proportions as surgery, would be a herculean task, and to compress such a report within the prescribed limit of time alloted each paper would be an utter impossibility. The recent advances in surgery have not only been rapid but they have, in some respects, been actually astonishing. This progress has not been confined to any two or three particular branches, but has pervaded the entire domain of surgery, and by a composition of the surgical procedures of the past, the difference in technique, and especially in the rate of mortality, one may very justly ask, To what is this progress due? The answer is simple. To the study of bacteriology, on the one hand, and to the advancement of anti-septic methods and the improvements in technique on the other. If we look back into the dark ages we find that surgery in all countries is as old as human needs. A certain skill in the staunching of blood, the extraction of arrows, the binding up of wounds, the application of splints to broken limbs, and an instinctive reliance on the healing power of the tissues has been common to men everywhere. As far back as 500 before Christ we find among the Hindus, as reported by Susruta (1) that some dexterous operations were performed, fractures were diagnosed, among other signs by crepitus; dislocations were elaborately classified and the differential diagnosis given; the treatment was by traction and countertraction, circumduction and other dexterous manipulation. Wounds were divided into incised, punctured, lacerated, contused, etc. Cuts of the head and face were sewed. Skill in extracting foreign bodies was carried to a great height, the magnet being used for iron particles under certain specified circumstances. Inflammations were treated by antiphlogistic regimen and appliances, venesection was practiced at several other points besides the bend of the elbow; leeches were more often resorted to than the lancet; cupping also was in general use; poulticing, fomenting and the like were done. Even amputations were now and then performed, notwithstanding the want of good control over the hemorrhage, boiling oil being applied to the stump with pressure by means of a cup-formed bandage, pitch being sometimes added. Tumors and enlarged lymphatic glands were cut out; abdominal dropsy and hydrocele were treated by tapping with a trocar; and varieties of hernia were understood, omental hernia being removed by operation on the scrotum. Aneurisms were known but not treated; the use of the ligature on the continuity of an artery, as well as on the cut end of it on a flap, is the one thing that a modern surgeon will miss somewhat noticeably in the ancient surgery of the Hindus. Beside the operations already mentioned, the abdominal cavity was opened, by a short incision below the umbilicus slightly to the left of the median line, for the purpose of removing intestinal concretions or other obstructions (laparotomy). Only a small segment of the bowel was exposed at one time; the concretion, when found, was removed, the intestine stitched together again, annointed with glue and honey and replaced in the abdomen. Lithotomy was practiced without the staff. There was a plastic operation for the restoration of the nose, the skin being taken from the cheek adjoining and the vascularity kept up by a bridge of tissue. The opthalmic surgery included the extraction of cataract.

Obstetrical operations were various, including cæsarean section and cushing of the fœtus. Susruta describes more than one hundred surgical instruments made of steel. They should have good handles and firm joints, be well polished and sharp enough to divide a hair; they should be perfectly clean and kept in flannel in a wooden box. Among them were various shapes of scalpels, bistouries, lancets, scarifiers, saws, bone nippers, scissors, trocars and needles. There were also blunt hooks, loops, probes (including a caustic holder), directors, sounds, scoops and forceps (for polypi, etc.) as well as catheters, syringes, a rectal speculum and bougies. There were fourteen varieties of bandages. The favorite form of splint was made of thin slips of bamboo bound together with string and cut to the length required. Wise says that he has frequently used "this admirable splint," particularly for fractures of the thigh, humerus, radius and ulna, and it has been subsequently adopted in the English army under the name of the "patent rattan cane splint." The surgery of the Hippocratic collection (age of Pericles) bears every evidence of finish and elaboration. The treatise on fractures and that on dislocation as well, are hardly surpassed, in some respects, by the writings of the present mechanical age. Of the dislocations of the shoulder, the displacement downward into the axilla is given as the only one at all common. The two most usual dislocations of the femur were backward on to the *dorsum ilii* and forward on to the obturator region. Fractures of the spinous processes of the vertebræ are described. Tubercles (*phumata*) are given as one of the causes of spinal curvature, an anticipation of Pott's diagnosis. Fractures and dislocations were the most complete chapters of Hippocratic surgery. The next most elaborate chapter being that on wounds and injuries of the head, which refers them to a minute subdivision and includes the depressed fracture and the contra coup. Trephining was the measure most commonly resorted to, even when there was no compression. Numerous forms of wounds and injuries of other parts are specified. Ruptures, piles, rectal polypi, fistula in ano, and prolapsus ani were among the other conditions treated. The diagnosis of empyema was known and the treatment of it was by an incision in the intercostal space and evacuation of the pus.

"The surgeons of the Alexandrian school were all distinguished by the nicety and complexity of their dressings and bandagings of which they invented a great variety." Herophilus boldly used the knife on internal organs, such as the liver and the spleen,

1. Chiene- (A) Surgery-Ency-Brittan-Vol. xliv., 11.

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which latter he regarded "as of little consequence in the animal economy." He treated retention of urine by a particular kind of catheter, which long bore his name. Lithotomy was much practiced by a few specialists, and one of them (Ammonius) is said to have used an instrument for breaking the stone in the bladder into several pieces, when it was too large to be removed whole. The surgery of the Romans, as described by Celsus (De Re Medica) gives little beyond the maxims and rules of the Greeks. Plastic operations for the restoration of the nose, lips and ears; the treatment of hernia by taxis and operation; in the latter it was recommended to apply the actual cautery to the canal after the hernia had been returned. The description of lithotomy is that of the operation as practiced long before in India and at Alexandria. The treatment of sinuses in various regions is dwelt upon, and in the case of sinuses of the thoracic wall resection of the rib is mentioned. Trephining has the same prominent place assigned to it as in the Greek surgery. There sources of contemporary surgery may be estimated by the fact that subcutaneous urethrotomy was practiced when the uretha was blocked by a calculus.

Amputation of an extremity is described in detail for the first time in surgical literature, and mention is made of a variety of opthalmic operations. There is little of surgical interest in the writings of Galen, great as their importance is for anatomy and physiology. Surgical practice was in a flourishing condition all through the period of the empire, and among the great surgeons were Antyllus who had an operation for aneurism (tying the artery above and below the sac and evacuating its contents); and for cataract, and he treated contracted muscles by something like tenotomy. Heliodorous is said to have arrested hæmorrhage by torsion, to have operated for scrotal hernia, and to have treated stricture of the urethra by internal section. Antyllus removed glandular swellings of the neck (strumæ), ligatured vessels before cutting them and gave directions for avoiding the carotid artery and jugular vein. Flap amputations were done by Leonides and Heliodorus. But perhaps the most striking illustration of the advanced surgery of the period is the freedom with which bones were resected, including the long bones, the lower jaw and the upper jaw. Without a doubt the sixth book of the writings of Paulus Ægina (650), as translated by Mr. Francis Adams, (2) contains the most complete system of operative surgery which has come down to us from ancient times, bringing as it does the whole surgery of the ancient world to a focus. Paulus himself is credited with the principle of general depletion; with the lateral operation for stone, instead of the median; and with advocating the merits of a free external incision and a limited internal one; with the diagnosis of aneurism by anastomosis; with an operation for aneurism like that of Antyllus; with amputation of the cancerous breast by crucial incision; and with treatment of fractured patella. From the time of Paulus Ægina, notwithstanding the founding of the medical school of Solerna (which in the 10th century became famous) and of the University of Naples, nothing of very special interest in surgery is recorded until tne time of Paracelsus and of the Ambroise Pare. Indeed, the fourteenth and fifteenth centuries are almost entirely without interest for surgical history, the dead level of tradition being only broken by the revival of anatomy by Vesalius and Fallopius, and by the originality and genius of Paracelsus and Pare. Paracelsus was by no means an innovator in surgical operations. His description of "Hospital Gangrene" is true to nature; his numerous observations on syphilis were also sound and sensible, and he was the first to point out the connection between cretinism of the offspring and goitre of the parents. Pare was the first to treat gun-shot wounds by a simple bandage, instead of hot oil, according to the practice of the day, but his most memorable service was to get the use of the ligature for large arteries generally adopted, a method of controlling hæmorrhage which made amputation on a large scale possible for the first time in history. The sixteenth and seventeenth centuries are marked by no remarkable improvements in surgery. The use of the staff in lithotomy; the radical cure of hernia by means of sutures instead of the application of the actual cautery, the revival of flap amputations by Lowdham, an Oxford surgeon, and probably used by Wiseman, who was the first to practice the primary major amputations. Strangulated hernia became a subject of operation. Lithotomy by the lateral method came to great perfection, and the theory and practice of transfusion of blood occupied much attention. The eighteenth century marks the establishment of surgery on a broader basis than ever before. The study of anatomy, comparative anatomy, physiology and pathology received a great impetus, chiefly by the labors of Alexander Munro, of Scotland, and of the two Hunters in England.

Perhaps to John Hunter more than ever, is due the credit of having lifted the surgical profession out of the company of barbers and enabled it to take rank with the older order of physicians. Among the great improvements in surgical procedures were Cheselden's operation of lithotomy; Hawkin's cutting gorget for the same; Hunter's operation for popliteal aneurism, by tying the femoral artery in the canal of the triceps where its walls were sound (1785); Petit's, Desault's, and Pott's treatment of fractures; Gimbernat's operations for strangulated femoral hernia; White's and Park's excision of joints; Petit's invention of the screw tourniquet; his operation for lachrymal fistula; Chopart's partial amputation of the foot; Desault's bandage for fractured clavicle, and Cheselden's operation of iridectomy.

In the nineteenth century, the founding of museums of anatomy and surgical pathology, by the Hunters, Dupuytren, Cloquet, Blumenbach, Barclay and others gave to surgical knowledge a scientific character and a wide diffusion through all ranks of the profession. The discovery of the anæsthetic properties of ether and chloroform has been of incalculable benefit and gave an impetus to surgical procedures never before known. Many important additions were made to the resources of surgical art, among them being the introduction of thin thread ligatures for arteries, by Jones, (1805); the revival of torsion of arteries by Amussat, (1829); the practice of drainage by Chassaignac, (1859); aspiration by Pelletan; the plaster of Paris bandage and immovable dressings for simple fractures, club foot, etc., (an old eastern practice recommended in Europe in 1814); the re-breaking of badly set fractures; the general introduction of resection of joints, (Ferguson Symes, and others); successful ligation of

2. Paulus Ægina Vol. xi., Francis Adams.

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the external iliac for aneurism of the femoral by Abernethy (1806); ligature of the subclavian in the third portion, by Astley Cooper (1806), and in its first portion by Colles; crushing of stone in the bladder by Gruithuisen of Munich (1819) and Civale of Paris (1826) and perhaps the greatest of all, the cure of ovarian dropsy by the removal of the cyst, by our own Ephriam McDowell, in 1809.

It will thus be seen by the foregoing review that ancient surgery, in so far as surgical procedures are concerned, was not so far behind that of mediæval times nor indeed those of a more modern date, but their rate of mortality was immense, and continued to be of vast proportions until within a very recent period, until to-day, comparatively speaking, the mortality is almost *nil*. Perhaps to Pasteur more than any other is due this fact. In 1860, Lister, from a study of the experimental researches of Pasteur into the causes of putrefaction stated that the evils observed in open wounds were due to the admission into them of organisms which exist in the air, in water, on instruments, on sponges and on the hands of the surgeons, and he immediately determined to destroy, or at least interfere with the growth of these organisms either by paralyzing the germ itself before or after it had entered the wound, or by an interference with the soil upon which it grew, for example, by facilitating the removal of the discharges and preventing their accumulation in the wound cavity, and by doing everything to prevent depression of the wounded tissues, because it had been demonstrated by Pasteur and Tyndall, that these organisms cannot grow on healthy soil and that vitality of tissues was, as it is now, the best of all germicides. It is useless to tax your patience by a recital of Listerism. How from a small beginning it has grown to such immense proportions that its arms, broad and long, reach out to and encompass the furthermost ends of the civilized world. The object Lister had in view, from the beginning of his experiments, was to place the open wound in a condition as regards the entrance of organisms as closely analogous as possible to a truly subcutaneous wound, such as a contusion, or a simple fracture, in which the unbroken skin acts as a protection to the wounded tissues beneath.

The introduction of this practice effected an entire revolution in operative surgery, involving as it did the great principle that putrefaction in a wound is an evil which can be prevented, and that if it is prevented, local irritation, in so far as it is due to putrefaction, is obviated and septicæmia and pyæmia do not occur. Alongside of this great improvement the immense advantage of free drainage is now universally acknowledged, although in abdominal surgery the question of drainage of the peritoneal cavity is still *sub judice*. The fear of septic infection by means of the drainage tube is considered by many a sufficient bar to its use, besides there are other accidents and sequellæ which may follow in its track. Since the adoption of the principle laid down by Lister, so remarkable has been the change in operative surgery that one can almost say with Mark Twain (4), "from a three or four thousand year twilight to the flash and glare of open day, that one has walked in both and yet one is not old." This change is the most sweeping that has ever come over the surgical world since the beginning of its history. In fact, it is the utter reversal of an attitude which has been maintained almost without challenge or interruption from the earliest antiquity. To be convinced of this one has only to contrast the results of antiseptic treatment with the results formerly obtained under the old or septic treatment. (5). Take for example an amputation above the elbow or elsewhere which, under the old regime, done by the most skillful surgeon, followed, perhaps, such a course as this: At the end of twenty-four or forty-eight hours there should be a rise of temperature, ranging from 102° to 105°, which would last for several days and was the so-called surgical fever. When suppuration was established, which was the rule and not the exception, the fever gradually subsided and later the suppuration would also diminish. Frequently trouble arose from the ligatures, and secondary hæmorrhage was one of the calamities constantly to be watched for. Inflammation of the wound excited no surprise; indeed, if the wound healed without inflammation and suppuration it would be recounted as a surgical triumph. The formation of abscesses, erysipelas and gangrene were always to be feared. How different the picture under the new treatment. "The temperature of the patient scarcely rises above the normal. Apart from the discomfort from shock, from the anæsthetic and from loss of blood, he will suffer but little pain. It is not an infrequent thing to see a patient recover even from a severe operation, without having suffered any pain or having lost a single meal, excepting, of course, those of the day of operation. By the fifth or tenth day, when the second dressing is applied, the wound is well. No complication ought to occur, save in exceptional cases. Secondary hæmorrhage is unknown. Primary union of the flaps is always expected. The formation of pus is a rare accident, and if it does occur, the surgeon asks himself "what mistake did I make?" The following case is illustrative: J. M——, aged 32, while in a state of intoxication, was run over by a passing train. The right arm was crushed to a pulp, rendering amputation imperative. The arm was taken off immediately below the shoulder joint. In 36 hours the drainage tube was removed; the wound was redressed on the eighth day; primary union was perfect, and in two weeks the patient was discharged well. In this case the temperature never was above normal, the patient did not lose a meal, his appetite being exceptionally good during the entire time of his stay in the sanitarium. There was not a drop of pus, save in the track of one of the sutures, nor did the patient complain of any pain. Such a result is the rule and a failure to obtain it the exception.

Let us compare the rate of mortality of amputations before the day of antisepsis and since its introduction. From the siege of Spires, 1689, to the close of the Franco-German war, 1870, a period embracing 180 years, of an aggregate of 9,017 amputations in the thigh adduced, 549 were undetermined, 1,419 had successful results and 7,049 were fatal, a death rate of 83.2 per cent. In the war between the States (7) an aggregate of 6,229 amputations in the shaft of the femur, 2,839 had successful and 3310 fatal terminations; a mortality of 53.8 per cent. In 3,728 amputations of the leg, 2,354

3. Creighton. Ency. Brittan, Vol. xxv., 11.
4. *Harper's Magazine*, July, 1889.
5. W. W. Keen, M. D. Recent Progress in Surgery. Harper, October, 1889.
6. Medical and Surgical History of the War, 8d part, page 334.
7. Medical and Surgical History of the War, 8d part, page 332.

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recovered, 1,215 were fatal, 159 undetermined, a mortality of 34 per cent (8). In Billroth's Clinic in Vienna, in the seventeen years from 1860 to 1877, there were 315 major amputations done in the most approved methods of the days before antiseptics were introduced. Of these 173 or 54 per cent died. From 1877 to 1880, 94 such amputations were done by the same surgeon with antiseptic precautions, and the mortality was reduced to 19.7 per cent. Of the 91 cases, 56 were uncomplicated and of these not one died. In Von Brun's Clinic, 47 major amputations were done antiseptically, and not one died. Bush reports 57 similar amputations with a mortality of 3.5 per cent. Schede, 31 amputations with a mortality of 4.37 per cent. Socin, 48 amputations and a mortality of zero; and Volkman, 220 amputations with a mortality of but 3.5 per cent. The statistics of compound fractures from a half-dozen of the best hospitals of America and Europe for varying periods, from twelve to twenty years before the introduction of antiseptic methods, gave a mortality varying from 26 to 68 per cent, the majority of deaths being from serious complications, the result of blood-poisoning. The introduction of antiseptics caused a falling off of the death rate of Billroth's cases in Vienna to one-tenth of what it formerly was, and in the other hospitals in similar, though in varying proportions. Still more remarkable are the results recently reported by Dennis, of New York. Of 446 compound fractures of all grades, from the most severe down, of which 385 belonged to the class of severe fractures, only two died, the mortality being less than one-half of one per cent. Less that 2 in 400 in contrast to the rate previous to the introduction of modern surgical methods, of from 104 up to 272 in 400. Last year his list of cases had reached 900 without a single death from blood-poisoning. Nothing can add force to such a statement. (4).

In abdominal surgery the advance has been marvelous, and the contrast in the treatment of wounds of the abdominal viscera is even greater than in that of amputations. The result of wounds of this character as tabulated in the medical and surgical history of the war (9) shows that of 79 cases of shot wounds of the stomach the mortality was over 75 per cent. In 653 cases of wounds of the intestines, the mortality was over 80 per cent. When the small intestine was injured only, five recoveries were recorded, and only fifty-nine from wounds of the larger bowel. Compare the results which have been obtained by Bull, Parker, Simm and others. Keen (10) in his very valuable article on the "Recent Progress in Surgery," in commenting on gun-shot wounds of the intestines says, "while it is true that a small rear guard in the surgical army would fold their hands and give opium until the patient died, there is scarcely a man abreast with modern ideas who, in such a case, would not open the abdomen, tie bleeding vessels, sew up a rupture or wound of the stomach or bowels, remove a lacerated kidney, and in general repair any damage done.

Of course, large numbers of such patients either from immediate hemorrhage or from the severity of the wound inflicted (shock) must always die. But to say nothing of the numerous other cases in which recovery has followed operative interference in such wounds, even though multiple, the possibilities of modern surgery are well shown in a case reported by Senn, in which eleven perforations of the bowel were sewed up, and another by Hamilton in which there were so extraordinary a number as thirteen wounds of the intestines, beside wounds of the omentum and the mesentery, and yet both of these patients made uninterrupted recoveries. In a recent table by Morton, of nineteen cases of stab wounds (all of course by dirty knives and one even by a ragged splinter of dirty wood) with hemorrhage and protrusion of the bowels, twelve recovered but seven died, and even of 110 gun shot wounds of the intestines in which the abdomen was opened, 36 lives were saved. In a series of tables (11) by W. B. Coley, the records of 74 cases of penetrating shot wounds of the abdomen in which operations were performed, 39 of the cases were operated on in the first 12 hours with a percentage of recoveries of 43.6, 22 cases operated on after the first twelve hours gave a percentage of recoveries of 22.7. The other 13 cases in which the time of operation could not be discovered gave a percentage of recoveries of 57. The results reported by Park, Bull and others surpass even these. In abdominal surgery for the removal of tumors, for abscesses, for exploration, etc., the results reached are simply phenomenal. In the first 100 cases reported by Mr. Lawson Tait, 92 patients died, 92 per cent, and in the second 1,000 only 53 died, 5.3 per cent.

In ovariotomy alone the percentage fell from 8.1 per cent in the first 1,000 to 3.3 per cent in the second. I am justified in using the word phenomenal when we consider that only a quarter of a century ago the mortality of ovariotomy was but little, if at all, under 50 per cent. In our own country results are being obtained almost equally as good by such operators as Jos. Price, Gill Wylie and others, and our own State makes a most creditable showing in the report made to the Southern Surgical and Gynæcological Association at its last meeting, by Dr. L. S. McMurtry, and in the work of Wathen, Johnston, Yandell, Roberts and others. Indeed the abdominal cavity is being opened daily and its entire contents subjected to surgical interference. "In 90 cases the spleen has been removed followed by 51 recoveries and in 10 cases of removal of "floating spleen" there were eight recoveries. Kocher, (12) in commenting on extirpation of the spleen says "the mortality has increased in direct proportion with the size and immobility of the tumor and with the number and firmness of the adhesions. The difficulties of technique of course increase greatly at the same time. It is essential for success in splenectomy that the operative procedure be so cautious and deliberate that adhesions are not torn or cut at points where the contained vessels can not be ligated, or at least compressed by the hand or forceps. The incision advocated by Czerny and Pean, upon the border of the rectus, is to be preferred." "In 78 cases of cholicystotomy recorded last year there were 64 recoveries, and of 22 cases in which cholicystotomy was done, 19 recovered. In 100 operations, therefore, on the gall-bladder the mortality has only been 17 per cent. Mr. Tait himself has performed 54 such operations with a mortality of less

8. Medical and Surgical History of the War, 8d part, page 432.
9. Medical and Surgical History of the War, 2d part, page 202.
10. W. W. Keen, Recent Progress in Surgery, *Harper's Magazine*, October, 1889.
11. *Sajous Annual*, Vol cxi., 1889, 18–29.
12. Keen, *Harper's Magazine*, October, 1889.

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than 4 per cent. (13.) In 375 cases of nephrectomy, 197 recovered. In 197 cases of nephrectomy for abscess, calculi, etc., 152 recovered. In 25 cases of nephrorrhaphy 24 recovered. A total of 597 operations on the kidney shows, therefore, recovery in 373. A mortality of less than 40 per cent.

The researches of Hitzig, Fritsch, Ferrier and others, in cerebral localization has been applied in the operative treatment of endocranial lesions, and since the report made by Bennett & Godlee (14) in 1884, of the location and removal of a tumor in the brain, many such operations have been done, and the brain has been invaded not only for the removal of tumors, but for paralysis, epilepsy, abscesses and endocranial hæmorrhage. In 20 cases of removal of tumors from the brain, 17 from the cerebrum and 3 from the cerebellum, of the 17, 13 recovered, and the 3 cases where the cerebellum was invaded, all proved fatal (15), but the operative treatment of tumor of the brain does not seem to have gained the same footing as that of cranial lesions and of cerebral abscess, and the efficacy of surgical interference in traumatic epilepsy still remains *sub judice.*

During the past year two very valuable papers on brain surgery have been read by American surgeons. One before the Pennsylvania State Society, by McCann (16), "Observations on the Present Status of Brain Surgery," and one by Park on "Surgy of the Brain Based on the Principles of Cerebral Localization" (17), read before the Congress of American Physicians and Surgeons, at Washington. Senn says (18) "It must be a source of pride to the profession of this country that during the last year a number of the most brilliant results of cerebral surgery have been reported by American surgeons." Macewen, of Glasgow, was the pioneer in cerebral surgery, having in 1879 diagnosed and located a cerebral abscess; operation was not permitted. Twenty-four hours afterward the patient died and he was allowed to operate as he would have done prior to death. Removing a button of bone and incising the dura, nothing was seen, but passing a scalpel into the brain substance, an abscess was opened. In 1883 Macewen did perhaps the first operation of this kind on record, trephining over the upper portion of the ascending parietal convolution and evacuating an abscess. The patient, a woman, made a perfect recovery. Spinal localization has, while not quite keeping step with that of the brain, received and attracted much attention, and a paper by Ross (19) on the "Segmental Distribution of Sensory Disorders" is most instructive and will prove of interest and value to the general practitioner. Tumors have been removed and lamimectomy in cases of spinal caries and old fractures has of late been done frequently and with good results. It is also advocated for pressure paralysis from angular curvature, and successful cases have been reported by Willard, of Philadelphia.

But few instances have been recorded during the past year of successful surgical intervention in the treatment of pulmonary affections, and it may be as well to recall the fact, as mentioned in the early portion of this paper, that Hippocrates, in writing of abscesses located within and without the lung tissue, describes the proper point at which to open them, the method of draining and cleansing the cavities and even mentions the proper instruments. Two thousand years have flown by on the wings of time and to-day we have not departed from the principles laid down by this Grecian Sage. The value of suprapubic cystotomy as a convenient and safe method of removing calculus, morbid growths of foreign bodies, as well as for chronic cystitis, has been confirmed. Epicystotomy, for the removal of enlarged prostate, has almost within the past year been placed among the recognized surgical procedures.

Loretta's operation of digital divulsion of the pylorus for stricture has of late commanded much attention both in England and America. In addition to eighteen cases tabulated by Bull, Barton of Philadelphia, has collected a total of twenty-four cases, showing fifteen recoveries and ten deaths. In the majority of cases the relief afforded seems to have been complete and lasting. The question of intestinal anastomosis by means of decalcified bone plates introduced by Senn, has also attracted much attention and numerous experiments have been made in that line. It has been proposed by Abbe to substitute for the bone plates, rings made of catgut; by Brokaw, of St. Louis, segmental rubber rings; and Davis, of Birmingham, claims mats and plates made of catgut are superior to either or any of these. In a paper (20) read before the Southern Surgical and Gynæcological Association at Nashville, in November, he claims that approximation catgut mats and plates can be made of any size in less than an hour, that they are rapidly absorbed, that anastomosis by means of these mats and plates furnishes the best conditions for the healing of visceral wounds. That anastomosis can be performed by means of catgut mats and plates without division of bowel in five minutes; and with division or resection in fifteen minutes, including a continuous outside safety silk suture around the circumference of the mats or plates. Certainly an immense improvements on the method of dealing with lesions of the intestines. The question of the removal of the vermiform appendix in recurrent cases of typhlitis and perityphlitis, has been the subject of much discussion during the past year. Treves (21) divides typhlitis in regard to treatment into three classes: "The simple form due to fecal impaction or the retention of some iritating substance in the cæcum with a resulting stercoral ulcer; the form which ends in suppuration and which nearly always depends upon disease of the appendix; and the relapsing form, in which the appendix is probably in every case involved. In regard to treatment, the simple form yields, as a rule, to the ordinary medical measures. The second variety, that which leads usually to suppuration, demands surgical treatment. In these cases Mr. Treves considers that the use of the knife will very rarely be called for before the fifth day, and condemns very early operative interference. He also condemns absolutely the use of the exploring needle, which is so extensively employed in these cases by American surgeons. The incision should be placed over the part of the inflamed area which appears to cover the seat of suppuration, it being desirable that the pus should be reached by the

13. *American Journal of Medical Science*, January, 1889.
14. *London Lancet*, Dec. 20, 1884.
15. *New York Medical Journal*, Park. Nov. 3, 10 and 17, 1889.
16. *Pittsburg Medical Review*, October, 1889.
17. *New York Medical Journal*, Nov. 3, 10 and 17, 1889.
18. *Sajous Annual*, Vol. cxi., A. 20.
19. *Brain*, January, 1889.
20. *Annals of Gynæcology*, January, 1890.
21. *British Medical Journal*, October, 1889.

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shortest route and allowed to escape in the most direct manner. The view that every recurring or relapsing case of typhlitis has its cause in the vermiform appendix has gained many adherents, but the propriety of exploring or removing the appendix in such cases still remains *sub judice*. W. T. Bull, in a paper (22) read before the American Surgical Association, on the "Surgical Management of Typhlitis and Perityphlitis," recorded the results in seventeen cases in which incision or laparotomy had been performed. Two deaths occurred in the seventeen operations. Bull does not limit the term perityphlitis to the inflammation of the peritoneum investing the cæcum, but employs it in a general way to indicate an inflammation of the cæcum or appendix, together with their peritoneal investment or the cellular tissue of the iliac fossa, giving as a reason that we are not yet in a position to clinically distinguish between an inflammation of the cæcum or its appendix. Most recent writers agree that ulceration leading to perforation is by far most frequent in the appendix, but admit the frequent occurrence of catarrhal inflammation in the cæcum in which the appendix participates. The term typhlitis alone, or apendicitis, does not express the entire pathological condition. Either may be the starting point, but the invasion of the peritoneum or the cellular tissue is the more significant lesion at the early stage when we are capable of appreciating it. He concludes with the following propositions:

1. Our present knowledge justifies the statement that both cæcum and appendix may be the starting point of an inflammation, which, spreading to the peritoneum and cellular tissue of the illiac fossa, constituted a complicated disease, which for convenience sake we call "perityphlitis." This may be in its clinical course resolving or suppurative, each marked by definite symptoms in some cases, in others difficult to distinguish.

2. Needle exploration is a justifiable and desirable method of diagnosis, though attended with some risk.

3. Suppurating perityphlitis may be a spreading or a limited (circumscribed) peritonitis. Both begin with the same set of symptoms, and it is important to discriminate in the first twenty-four or forty-eight hours, or even on the third day between them. The presence of any of the local or constitutional signs of general peritonitis justifies the diagnosis of a spreading inflammation and calls for the performance of laparotomy. The absence of the symptoms or their strict localization warrants a delay of varying length. Any time after a week the abscess may be opened by an incision which must reach the pus whether it be extra or intra-peritoneal.

4. In doubtful cases the risk of exploration is less than the risk of the disease.

5. The propriety of exploring or removing the appendix in recurrent cases must still remain *sub judice*."

The radical cure of hernia, a surgical procedure of vast importance has been canvassed much, both at home and abroad. The discussion at the Third French Congress of Surgery and during the meeting of the British Medical Association has been reviewed by C. B. Keeley (23), and most of the operative methods described. Socin advocates the total extirpation of the sac above its neck, and thinks that approximation of the pillars by sutures is only exceptionally required. Lucas Championniere removes the sac completely as high up as possible and insists upon the most thorough attention to every antiseptic detail. Macewen does not remove the sac, but forces it into a pad which is returned through the canal and placed on the abdominal aspect of the internal ring. Banks dissects out the sac, replaces the bowel and ties and cuts away all adherent omentum. The sac is then pulled down, ligatured high up and removed, and lastly the pillars of the ring are drawn together by silver sutures. Almost all of the operations involve either removal of the sac, suture of the neck of the sac or of the walls of the canal, or both, or else some modification of this operation. In this country, McBurney, whose operation has been adopted by our best surgeons, affirms that the actual cause of hernia and that which acts continuously as a propelling force, when once started, is the natural peritoneal pouch. This exists in almost every individual and it leads to a natural deposit of intestines and consequently to pressure at that point. In operating for hernia his endeavor has been to get at the root of the evil and to interfere in such a way that the original condition causing and maintaining the trouble should be removed. He therefore strives to get at the sac at the very highest point and to absolutely obliterate it. The skin and subjacent tissues are drawn together to such an extent that a space of only about one-eighth of an inch is left, that is, the smallest space which will admit the packing of iodoform gauze. Healing takes place from the bottom of the wound and the result is a very strong and dense cicatricial tissue. In a paper, read in the Surgical Section, American Medical Association, last year at Newport, Dr. Henry O. Marcy advocated the use of buried animal sutures in the radical operation for hernia. He lays much stress upon the restoration of the obliquity of the canal, which can only be affected by the open dissection method, since the restoration must commence at the internal ring. The wound is closed by buried animal sutures which restores the canal, enclosing the cord, to its normal size, length and obliquity. The superficial tissues as well as the skin are closed and evenly approximated and the necessity of the drainage tube dispensed with. Marcy quotes reports of operators who have given 779 cases with only 5 deaths, and these are explained as having been produced by causes other than from the operation. How many of these cases may be classified as permanently or radically cured is difficult to say. The question is still under discussion as to the permanency of cure in any of these operations, but there can be no doubt that good results follow any method which closes the mouth of the sac and causes its obliteration.

In concluding, I wish to lay stress upon the statement made in the beginning of this paper, that the marvelous improvements in operative surgery and the wonderful results obtained, are due to the study of bacteriology on the one hand and to the advancement of antiseptic methods on the other.

Dr. Nicholas Senn, of Milwaukee, and Dr. Christian Fenger, of Chicago, have been elected Professors of Surgery in the Chicago Polyclinic. They will present a special course in abdominal surgery twice yearly, and have charge of clinical work connected therewith.

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22. *Sajous Annual*, Vol. cxi., B. 89.
23. *Annals of Surgery*, July, 1888.

24. Radical Cure of Hernia.

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Aberrant Sexual Differentiation.

By G. Frank Lydston, M. D., Chicago, Ill.

The subject of imperfect or aberrant sexual differentiation are much more numerous than is generally supposed, but fortunately the majority of cases are either slightly marked or of little practical importance as regards their physiological and social relations.

Time was when certain marked cases of physical deformity were of vital importance to medical jurists and hermaphroditism, so-called, received considerable attention on the part of authorities upon jurisprudence. Thus in England, where the law of primogeniture exists and the male is therefore relatively so important a factor in the body social, the traditions of law upon hermaphroditism still prevail to a certain extent.

As our knowledge of physiology and morphology has advanced, however, the so-called hermaphrodite has not only decreased in numbers, but is no longer of such vital importance. The principal feature of such cases now-a-days is the question of impotence on the one hand, and sterility on the other.

Hermaphrodism in its literal sense implies a mingling of the physical and functional characters of both sexes, the crucial test being at the present day the existence of a more or less perfectly formed testicle and ovary in the same individual. In this sense there is, as far as I am aware, not a single case of hermaphroditism on record. I am aware that such are described, but I do not admit their authenticity. It is admitted, however, that cases are occasionally seen which require great diagnostic acumen for their differentiation. An illustration of this occurred in Paris several years ago. A case coming under the observation successively of Guyon and Fournier, was in a lengthy opinion positively asserted to be male by one, and quite as positively pronounced a female by the other of these eminent gentlemen.

Many cases occur in which a diagnosis is impossible until the age of puberty, when certain sexual proclivities—menstruation, the development of beard, changing voice, etc., as the case may be—decide the question of sex. It is a fact that in marked cases of so-called hermaphroditism, the afflicted person not only has not a mixture of male and female organs, but is practically a neuter, being incapable of exercising the functions of either sex. When, however, the subject of general malformation is also a sexual pervert, appearances may indicate an apparent commingling of the functional capacity of both sexes. A case which came under my own observation aptly illustrates this: A "hermaphrodite" mulatto cook in my neighborhood not only had intercourse with women, but was in the habit of enticing young lads into attempting connection. An endemic of gonorrhœa among the lads of the locality led me to investigate the source of the disease and readily traced it to the negro hypospadiac.

Aberrant sexual differentiation is not always physical but may be functional, *i. e.*, dependent upon imperfect differentiation of sexual affinity. As sexual affinity is but a form of "hunger" (Clevinger, *op. cit.*)† or chemical affinity, sexual perversion might naturally be expected to result. It may be seen therefore that pæderasts, urnings (Caspar, *op. cit.*) and other sexual perverts are really akin to epispadiacs snd hypospadiacs.

† "Physiology and Pathology," S. V. Clevinger.

The subjects of imperfect sexual differentiation may be classified as follows:

1. Imperfect differentiation of sexual affinity without defective structure. } Pæderasts, Urnings, Subjects of bestiality. Affinity of the female for her own sex.

2. Defective (*i. e.*, imperfect differentiation of) structure. } *a.* Simple (*i. e.*, with normal sexual appetite). *b.* Complex (*i.e.*, with perverted sexual appetite)

Under this head comes some cases of hypospadias and epispadias, and certain cases of rudimentary condition or absence of uterus, ovary, testicle and penis.

In an old work upon jurisprudence (Guy, *op. cit.*) cases of sexual peculiarity (*i. e.*, physical malformation) are classified as follows:

1. Male individuals with such unusual formations of the generative organs as in many respects to resemble the female.

2. Female individuals with such unusual formation of the same organs as to resemble the male.

Where a mixture of the sexual organs of both sexes is exhibited without either being entire.

It is obvious that there are certain acquired conditions which would fall under the above classification which would not be true cases of aberrant sexual differentiation; *e. g.*, a prolapsed and hypertrophied uterus has been mistaken for a rudimentary penis, and females thus afflicted have been known to copulate with other females. An hypertrophied clitoris may be mistaken for a rudimentary penis.

The importance of caution in deciding the sex in cases of genital malformation is aptly illustrated by a comparatively recent case occurring in this city. In this case society was electrified by the discovery that a supposed young lady who had been visiting about and sleeping with *bona fide* young lady friends, was a boy. The first intimation of the truth was the development of a pronounced beard with a bass vocal accompaniment.

There was considerable anxiety for a time lest the supposed girl had discovered his meritorious qualities prior to their detection by others. He naively confessed that "it always did make him feel funny to sleep with the girls."

The assertion that certain cases of sexual perversion are akin to epispadias and hypospadias and the result of imperfect differentiation, may seem a trifle far fetched, but I hold to the opinion that, even when the differentiation of sex is complete from a gross physical standpoint, it is still possible that the receptive and generative centers of sexual sensibility may fail to become perfectly differentiated. The result under such circumstances might be, on the one hand, sexual apathy, and upon the other, an approximation to the male or female type as the case may be. Such a failure of development and imperfect differentiation of structure would necessarily be too occult for detection from a physical standpoint by any means of investigation at our command. It is, however, only too well recognized by its results and is often responsible for disgusting cases of sexual perversion which we are prone to attribute to moral depravity. I have elsewhere elaborated this point, and upon the relation of reversion of type to sexual perversion. (*Philadelphia Medical and Surgical Reporter*, September 7th, 1889.) Thus a failure of development is equally responsible

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for certain cases of sexual perversion and instances of hypospadias and epispadias.

Cases of gross physical aberration of genital structure are not difficult to account for, as far as the modus operandi of their formation is concerned, but their cause is not so readily explicable. How far maternal impressions enter into the causation of genital deformity is a question upon which it is to be hoped much light may some day be shed. There is evidently an exhaustion of formative energy before complete fusion of the two lateral segments, of which the embryo is practically composed.

Defective genital formation bears the same relation to this exhaustion of formative energy, as does crania bifida, spina bifida, etc. It is obvious that the degree of deformity depends entirely upon the period at which developmental progression ceases. As far as appearances go, we would naturally conclude that differentiation does not cease at a very early period in the life history of the fœtus, else true hermaphroditism would not only occur in reality, but would be frequent.

Geoffroy St. Hiliare, one of the older writers, mapped out a very elaborate plan in explanation of hermaphroditism in a work especially devoted to that subject. He divided the generative apparatus into a series of portions or segments, three in each lateral division. The upper set comprised the testes and ovaries, the middle the womb, prostate and vesiculæ seminalis, the lower the penis and scrotum, clitoris and vulva. According to him, therefore, there might occur any number of varieties of hermaphroditism, according to the combination of defective structures. This scheme was defective because of the fact that, in spite of all appearances to the contrary, differentiation never falls short of determining one or the other sex.

The simplest plan for the explanation of genital deormities and anomalies is to remember that the fœtus practically develops in two halves, and that any failure of union at the genital furrow will result in a greater or less degree of aberration of genital formation.

The relation of aberrations of genital formation to sterility and impotence is very important. Impotence does not exist in the female unless there be atresia or complete absence of the vagina. Almost any aberration of the structure of the ovary or uterus will, however, produce sterility. In the male impotency is more apt to result than sterility, as serious deformity may prevent erection, or sufficient development of the organ to prevent intromission. No matter how great the deformity, however, the individual may be fruitful if circumstances be favorable, as long as the testicles are functionally perfect.

In determining the sex of alleged hermaphrodites, the following points require consideration:

1. The character of the voice.
2. The development of the mammæ.
3. The growth or absence of beard.
4. The form of the shoulders, hips and waist.
5. The presence or otherwise of the menses or vicarious discharges.
6. The character of sexual desire. (In respect to this point, the occasional coexistence of sexual perversion with genital deformity should be given its due meed of consideration. Thus in a case in which difficulty of diagnosis existed a perverted sexual affinity for the same sex might mislead the physician.)
7. The presence or absence of rudimentary (or perfect?) testes and ovaries.
8. The form of the supposed clitoris or penis, the method of attachment of its prepuce and the absence or presence of perforation.
9. The presence or absence of the hymen (rudimentary), nymphæ, labia majora or bifid scrotum, as the case may be.

In cases of doubt it is safest to regard the individual as a female until time and pubescence have settled the question.

The cases of imperfect or aberrant sexual differentation included under the head of sexual perversion, are obviously more difficult to study than those in which the aberration is of a purely physical character. This is especially true regarding the sapphic love, or sexual affinity of female for female. That such cases are frequent I am convinced, but they are extremely difficult to trace; the confessional of the family physician doubtless might offer evidence of a clinical character, but the physician is very chary of airing the short-comings of his patients in this particular direction. The existence of this aberrant sexuality can only be explained by the theory of reversal of type.

In the case of the male, instances are so common that the subject is decidedly trite. It is not only charity, but a sense of justice and a desire to lessen the stigma upon human nature, that impels me to include cases of sexual perversion under the head of aberrant sexual differentiation, and to attribute the condition to perverted or imperfect evolutionary development on the one hand, and a reversal of type on the other.

Opera House Block.

Address Before the American Medical Editors' Association.

By President I. N. Love, M. D.

Fellow Editors: It is needless for me to attempt to express my appreciation of your having chosen me to preside over your honorable body. An organization which includes in its membership the editorial representatives of the leading medical journals of America is one over which any man might feel proud to preside, even though conscious of the fact that the kindly regard of cordial friends had more to do with his selection than special fitness or marked editorial ability. I shall not weary you with a lengthy address, as there are numerous able papers to follow which will prove more interesting, but I have decided to throw out, not in an advisory way, but merely as suggestions, a few points which I trust will not prove completely stale and unprofitable.

It would be more interesting than gainful for me to present to you a history of the progress of medical journalism from 1686, the year which gave birth to the first medical journal, down to the present day. I am safe in saying that medical journalism has kept pace with the advancement in other directions. The printed sheets, published at stated intervals, devoted chiefly to intelligence on current events, appearing, under the name of newspapers, in the early part of the seventeenth century, were mostly in the form of weekly news letters, which only the aristocracy could afford. But from this small beginning has been evolved the metropolitan daily paper, appearing once or twice, or half a dozen times a day, selling for a song, purchased by

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the millions, and he who runs may read what happens from one end of the world to the other.

Has the medical journal followed the pace set by the secular press? I will answer "yes" and "no." However, taken in their entirety and completeness, I believe the medical journals of the world may be credited with having kept in line with the progress of the journalistic procession. The current advances of the profession, the achievements of the medical word's best workers have been faithfully recorded and promptly presented. The negative side of the question confronts us when we consider whether the medical journalist has, like his brother of the secular press, kept his finger on the pulse of those he serves. Has he properly considered their tastes, their capacities? Has he studied their needs, has he sufficiently mingled with the masses whom he has been desirous of feeding? In general, has he not been inclined, like the Pythian Priest in the Temple of Apollo, to sit upon his tripod—with his tripod upon stilts—and deeming himself and his views even more thoroughly oracular than the Delphic one of old?

In secular affairs the panorama moves so rapidly that the journalistic music must be appropriately fast, just as fast as possible within the limits of harmonical sounds. The actions of men, the affairs of commerce, the interests of church and State, the ups and downs of the world at large, must be known by the reading masses before entering upon the various duties of the day.

But science, hygiene, sanitation, the dreary routine of the doctor's life, the needs of humanity, the interest involved, are, in the aggregate, against the too frequent appearance of the medical journal. The daily medical journal, in spite of the fact that the medical procession is moving more rapidly than ever, would be, in the nature of things, an absurdity. Thoughts, suggestions, inventions and discoveries are coming in rapid array, but in view of the fact that they pertain to the most serious of all earthly affairs, they must be weighed in the balance and found worthy, and not sky-rocketed upon the medical horizon like the sensational gossip which gives zest to the morning meal.

At this point the query presents itself: How often should the medical journal make its appearance? I answer, just as often as its equipment may enable it to present well-digested facts in good form for ready assimilation by its readers, bearing in mind that the doctor's life is a monotonous round of drudgery; in the majority of cases, nine months out of twelve, his "day's work" is never done. On the "go" from sixteen to eighteen of the twenty-four hours, the doctor, if he receives a journal too often, will see and read about one copy in four; the other three will remain in their wrappers.

He who sits in his sanctum delving in science, looking through the small end of a microscope (see-that which to the average eye is an unopened book); who daily walks through the valley and the shadow, and on the mountain top of science as well, may well feel that the ideal medical journal should deal in nothing but cold facts; should be severely and serenely scientific; that if it is anything else than learned and logical, strong and heroic, heavy with the accumulations of thoughts thrown out by theoretical authorities, it is undignified and unscientific.

They who are able to grasp such a journal are the upper "four hundred" who have not thought beyond that which is perfect and are learnedly angelic; but when it comes to presenting this Saturnine production to the masses of the profession, it will be more than likely a cold dish. Not that they are not qualified to appreciate it, but that they are too busy. They are in the world and of it. They are practical workers, many of them as I said before, either in the saddle or the sulky, in the buggy or the brougham, behind one or more of man's most faithful slaves, engaged in the effort to relieve suffering humanity. Four nights out of five they are unable to sleep in their own homes, and hardly have sufficient leisure to get acquainted with the individual members of their own families. They are all anxious to keep up with the procession of the sciences, ready to pick up crumbs of information and knowledge wherever available; but certainly in no humor to grasp one of the ideally perfect journals and wade through long, labored and learned theses, turned out after months of work by the scientifically plu-perfect. These practical workers, these slaves to a horde of suffering tyrants, want meat and drink, nutrition and stimulation, which is available and which they can pick up by the wayside by fits and starts.

In my judgment the best journal is the one which can present a fair epitome of the results achieved by the bacteriological, chemical, anatomical, physiological and the clinical workers; in fact I think the best journal is the one which furnishes matter within the scope of all, on the principle that he does the most good who does the greatest good to the greatest number. Of course there can be no doubt but that the special journal, heavy with science, comes within the reach of only a few; and those who conduct it should not feel that it is any better because the more exclusive than the more varied, practical, democratic and generally useful journal which caters to a larger number. I feel that every worker in the medical field should be induced to contribute his mite to the fund of knowledge.

There are those who have been long out of the scholastic groove working as slaves in the ranks of experience. The habit of jotting down their thoughts and ideas has long been broken. If called upon to contribute an article for a journal, the product, viewed from the standpoint of the schools, might fall far short of perfection; but that it would be valuable I am sure cannot be denied. We often hear the announcement made by medical men that they will never write except they have something absolutely original. We must remember that by knowing the views and the work of other men, even though the record be commonplace, do we accomplish the crystallization of our own knowledge. It is well to bear in mind, too, that the good and the true will bear repetition and are seldom strikingly new.

What we want is the recorded observation of the workers in the medical vineyard. Men who hibernate in their closets and indulge in day-dreams may evolve, by means of their proper equipment for scientific investigation, that which is of value; but the practical worker can apply these deductions and test them in the severe school of experience; and we need just such evidence as these practical workers can give. I claim too, that the medical journal should be constantly on the lookout to present all that is of interest

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to the medical guild; ever alert to advance their material good; striving in the direction of the complete organization of its members.

Under the existing condition of medical journalism in America, I am strong in the conviction that there is no justification for any medical body possessing itself of an official organ, save and except the American Medical Association. In the nature of things it is proper that the national representative body of the profession should be officially represented by a journal. And it should be the duty of that journal to work in harmony with all the various medical journals of America. It is fortunate for the American Medical Association that its official organ has been in such good hands. Regarding journals which serve in the capacity of official organs to State, district, county and city societies, medical colleges, instrument houses, publication houses, etc., I am of the opinion, not that they lag superfulous on the stage, but that their influence and usefulness can be but limited. However, I am firm in the belief that these and all other medical journals, so long as they spread knowledge, are productive of good.

We often hear the statement that there are too many medical journals; but it is no more true than is the statement that there are too many doctors or workers in other fields. As long as good work is done and the governing thought of the worker is the accomplishment of the general good, there cannot be too many workers either in journalism or any other field. The inexorable law of the survival of the fittest will obtain and solve the problem here as elsewhere.

I have thought for several years that this National Association of Medical Editors, meeting as it does annually the evening preceding the first day's session of the American Medical Association, should extend its work to the degree of having a session of one or two hours, say from 8 to 10 a. m., each day that the American Medical Association is convened. By having the several sessions the members would be brought together oftener and more intimately, and any topic of vital import to our craft would be carefully considered and conclusions reached which would have a far-reaching effect upon the journals and the profession.

I would not presume to advise this body, and yet I cannot refrain from announcing as my belief that every medical editor in America who is loyal to the best interests of his profession and himself will not only attend the annual meetings of the Medical Editors' Association, but will never fail to be present at the meetings of the American Medical Association, and urge the profession of the entire Union to join and attend this grand representative body. Let us never lose sight of the fact that the editor who mingles most with doctors is the best qualified to know their needs. Let us not, as medical journalists, throw overboard from our vessels the ballast of some sound judicious "Conservatism"—a discreet desire to present solid scientific sustenance to our subscribers, but may we not take the cue from the daily newspapers to the extent of giving proper variety to our patrons? Let us try to lead our professional brethren in correct directions, but may we not occasionally, in fact, frequently follow their leadership? Let is bear in mind the many carping cares constantly crowding the doctor's life, and while we try to present en-loaves of solid scientific food, let us ever and anon throw in all the crumbs of comfort we can. Let us remember that a little wit, gaiety, and even nonsense now and then are relished by the best of men. Charles Dudley Warner recently remarked that it is better to be dead than dull.

Let us try to be neither dead nor dull, but let us be saturated with a desire to improve, advance and inspire our readers with a determination to do the best work in their power for humanity and the profession. Let us strive to make the uppermost thoughts of our editorial lives those connected with science, humanity, charity, business thrift, brotherly kindness and cheerfulness.

Notes on the Use of the Alkaloids.

The rapidity with which the alkaloids are coming into use among general practitioners as well as specialists, makes it important that information regarding them should be placed before the profession.

Their accuracy of dosage, reliability (if the products of the best houses), and their freedom from adulteration, (which is one of the great drawbacks with crude drugs, tinctures, etc.,) all tend to increase their popularity with physicians, and since the days when the first alkaloids — quinine and morphine—were placed before the medical profession their use has steadily gained ground, and now it is rapidly becoming good practice to use the alkaloid or active principle of most of the drugs comprising our materia medica.

Accuracy and certainty in therapeutics is more nearly attained by their exhibition than by any other method, and the *armamentarium* of the progressive physician is not complete without at least the more important of these products of recent scientific progress in medicine. We append extracts from our exchanges, and from time to time will publish others.

Prof. Daniel Morton of St. Joseph, Mo., in a recent paper, says: "In none of the branches of medicine does the therapeutic proverb *tutotito et jucunde* apply with such force as in that of the diseases of childhood, the accomplishment of this proverb being a desideratum. This paper will attempt to show that the use of the active principles of the various remedies now in common use, instead of the Galenal preparations of the same drugs, is a great advance toward the attainment of this end. No one need fear that the successful use of active principles necessitates the learning of a set of new remedies, or that alkaloidal therapeutics brings into the field of medicine drugs never before heard of. On the contrary, it gives the same tools which we and our forefathers before us have used, greatly improved and capable of doing not only the work formerly required of them, but much else besides."

UNIFORM STANDARD OF STRENGTH OF DRUGS.

Editor *Medical World*:—In the March number there appears an article from the *Medical Age* regarding the necessity of a higher standard of accuracy for toxic and narcotic drugs—might not one with reason add for *all drugs?* Why is it that we are so often disappointed in not obtaining the looked for physiological effects from our prescriptions? Because the simple details composing the compound drug of which our prescriptions are made vary in strength. By dispensing our own medicine we obviate the difficulty of the druggist substituting the "next best thing" and also protect ourselves from having our prescription

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peddled out to our patients' friends; but so long as we remain in the old rut of compounds (fluid extracts, tinctures, &c.) we are still floundering in the quagmire of uncertainty so far as our knowledge of the actual strength of the simple principles is concerned. To my own satisfaction, and to the gratification of my patients, I have to a great extent solved the problem, by employing the alkaloids and other active principles, in the shape of the granules, obtaining prompter and more certain results than by the old method.

Among many striking results the following will serve as an illustration:

A lady, aged 29, excessively nervous temperament, complained of a severe neuralgic headache, accompanied by a desire to vomit; I gave three granules guaranine, each 1-67 gr., to be repeated in half an hour if not relieved; before the time for the second dose she declared that all pain had left her.

Case II. A lady, aged 23, suffering from cardiac valvular dyspnea. I gave six granules of aspidospermine 1-67 gr., one to be taken every fifteen minutes. The third granule cured her. I hope some other members of the *World's* family will give their experiences with the alkaloidal granules as they certainly fill a long felt want and give us a positive cure hitherto unattainable. H. M. MADDOCH.

96 W. 7th Street, Cincinnati, O.

THE THERAPEUTICS OF CODEINE.

Dr. Lowenmeyer, of Berlin, reports his results with the use of codeine (*Internationale klinische Rundschau*, April 6, 1890) in 400 patients, in some instances the drug being given for a considerable period. The effect in many painful conditions, such as gastralgia and colic, was most satisfactory, pain being subdued and the patient falling into a sleep. It was difficult to determine what kinds of pain were most favorably influenced by codeine, but it was apparently of least benefit in cases of very severe paroxysmal pain, such as gall-stone and nephritic colic.

In such affections of the respiratory organs as phthisis, pleuritic pain, bronchitis, and pneumonia, good results were obtained from codeine. It also rendered excellent service in asthma. The author's experience shows that it may be given without fear where there is cardiac disease. The doses employed by Lowenmeyer varied from ½ to ¾ grain.

PROF. DA COSTA'S PRESCRIPTION.

Prof. Da Costa prescribed the following as a palliative treatment for a man brought before the clinic, who was suffering from *cancer of the stomach*, and almost unable to retain any food: Cocaine hydrochlor., 1-6 of a grain, before taking milk which had added to it 10 drops of aromatic spirits of ammonia to each pint.

FROM COLLEGE AND CLINICAL RECORD.

Convallarmarin may be substituted for digitalis where the latter causes intestinal irritation. (Prof. Bartholow.)

CAFFEINE.

Misrachi (Annals. Gyn., Dec., 1889) commends in strong terms the use of caffeine in the treatment of post partum hemorrhage. It acts directly as a cardiac tonic and stimulant, and as a remedy for the acute anælmia of the nervous centers. Indirectly as a general excitement it promotes uterine contractions. Ergot should also be given in combination with it as a direct excito motor of the uterus.—*Brooklyn Medical Journal.*

COCAINE IN YELLOW FEVER.

Dr. Jas. Thorington reports (*American Journal of Medical Science*) success from cocaine to control the nausea and prevent the black vomit of yellow fever. It should be given in solution and about ten or fifteen minutes before taking nourishment. Instruct the nurse to repeat it at once if nausea occurs. He has given as much as one-half to one grain every half hour in bad cases. He usually administers ten minims of a 4 per cent solution. Under this plan of treatment he has had twenty cases with three deaths. The cocaine acts as an anti-emetic, a diuretic and a heart-tonic and stimulant.

HYDROCHLORATE OF HYOSCIN AS A SEDATIVE.

Dr. Magnan, of Paris, who has lately tested hydrochlorate of Hyoscin in his hospital, finds that a dose of 1 milligramme ($\frac{1}{64}$ grain) renders the patient calm in five minutes; he appears as if slightly intoxicated by alcohol, his feet seem rooted to the ground and he ceases talking. The drug is valuable in the treatment of insanity, as under its influence lunatics become calm, and remain so. In delirium tremens it induces healthy sleep. A child of thirteen suffering from tic, under its influence was cured of the spasmodic movements. A hysterical patient suffering from profuse perspiration of the hands and arms was entirely relieved by means of an injection of ½ milligramme, the perspiration being arrested in two minutes.—*The British Medical Journal.*

ATROPINE IN PARALYSIS AGITANS.

Dr. Moretti, of Rome, read a paper recently before the Lancisi Society, in which he reported some excellent results from the use of atropine in the treatment of paralysis agitans. One of his patients was the painter Vertunni, who had been obliged to abandon his occupation, but had improved so greatly under the use of this drug that he was able to go back again to his painting.—*Exchange.*

Surgical "Don'ts."

By AP MORGAN VANCE, M. D., in *Medical News.*

Don't do any operation with suspicious hands; hot water, soap, nail-brush and penknife should be carefully used by the principal and his assistants before any operation.

Don't, just before or during an operation, put the fingers about your nose, eyes or ears, or use a handkerchief, or shake hands with any one.

Don't pick up, or allow an assistant to touch any instrument, sponge or suture that has fallen to the floor during the operation.

Don't bite off the end of a suture.

Don't put a knife or other instrument in the mouth or behind the ear.

Don't cough or sneeze over the operative field.

Don't fail to have the patient bathed, the field of the operation thoroughly cleansed, and if necessary, shaved before operation.

Don't allow visitors to handle the field of operation after the patient is prepared, unless they are aseptic.

The Detroit *Journal* states that a portion of the lungs of President Garfield were taken at the time of the autopsy and cut up and distributed among microscopists. Upon investigation as to the foundation of the statements, the *Journal* says that it knows of persons in Detroit who have portions in their possession.

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Western Medical Reporter.

A Monthly Epitome of Medical Progress.

JOHN E. HARPER, A. M., M. D., EDITOR.

G. FRANK LYDSTON, M. D., ASSOCIATE EDITOR.

Subscription, $1.00 a year; to Europe, $1.25.

Entered at Chicago post office as second-class matter.

THE EDITOR would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information should be accompanied by the full name and address of the writer, although not necessarily to be published. All communications should be addressed to

WESTERN MEDICAL REPORTER, 163 State Street, Chicago.

Successful Abdominal Surgeons.

In our anxiety to toady to European operators we are apt to forget that great credit is due to some of our progressive American surgeons. Dr. Lewis McMurtry, who has recently removed from Danville to Louisville, Ky., is a man of whom Kentucky may well be proud. We have, a short time since, had the opportunity of visiting a series of recent cases upon which he had operated. These comprised twelve capital abdominal operations without a death. Among them were four of especial interest, viz., an abdominal hysterectomy for the removal of a fibroid of 17 pounds weight, a vaginal hysterectomy for sarcoma, a cholecystotomy with removal of two large stones, and an abdominal section for the relief of intestinal obstruction, following the reduction of an inguinal hernia.

Dr. Joseph Price of Philadelphia (who succeeded Dr. Goodell at the Preston Retreat), is another abdominal surgeon of more than local reputation, who is doing a great deal of excellent work. Two interesting cases as showing the comparative results of delay and early operation in gunshot wounds of the abdomen occurred recently in Lexington, Ky. The medical profession will readily recall the Swope-Goodloe fight at Lexington, in which Col. Swope was instantly killed and Col. Goodloe was shot through the abdomen. The family physician of Goodloe, ignoring the fact that one of the best abdominal surgeons in the country was then in Lexington, telegraphed to Cincinnati for rare talent. The imported talent said "wait," and wait it was. When an operation was finally decided upon, peritonitis had already set in, and the operation naturally failed. A short time after this unfortunate case, a young lad of Lexington was accidentally shot in the abdomen. Dr. Barrow of Lexington was fortunately called and immediately operated. Seven wounds of the intestines were found and sutured. Recovery followed, with fresh laurels for abdominal surgery. A good rule to follow when a gunshot wound of the abdomen is received at short range as was the case in the Swope-Goodloe affair is to infer that the intestines are probably wounded, or the peritoneal cavity opened even though the gut may have escaped injury. An exploratory incision will not complicate matters—at least sufficiently to offset the great danger of treating the case expectantly.

Our Lost Subscriber.

Our readers will doubtless recall a series of editorials anent the abortion "exposé." We understand that the pitiable object against whom the articles were directed, was formerly a subscriber to the REPORTER, but that he has cut off his subscription. He recently remarked to a professional gentleman of this city, who, by the way, should have too much self-respect to associate with the co-partner of blackmailers and scandal-mongers, that he "used to take the REPORTER," but had stopped it since we began to write "such slushy editorials." Rather too peppery for slush, were they not, oh, festive engineer of abortion "exposés?"

However, if those editorials were slush, we will try and make amends. We propose shortly to write a complete history of the mal-odorous "exposé."

Incidentally, we will try and ascertain precisely what Cook County Hospital positions were worth in good American dollars several years ago. We may also determine the price of full-page "ads." in the Chicago *Times*. We will try also to ascertain how much of truth and sincerity pervaded the pharisaical letters which were written the *Times* by the Spartan band who wouldn't, you know. Some of those letters were sincere, no doubt, but it is a noteworthy fact that a man who was one of the first to write an indignant and horrified protest against the practice of abortion, had been run out of New York for an abortion which cost a young girl her life. Since the *Times* affair, this same man has been run out of Chicago for a similar, though less disastrous crime.

The same man who engineered the *Times* exposé, wrote a letter to an eastern society recently, blackening the character of one of his successful competitors in practice, and succeeded in temporarily preventing him from becoming a member. As the letter was supposed to be kept a secret and its author had never attended a meeting of the society—and probably never intended to do so—no great risk was run in writing it. We will take the opportunity of stating in cold type, that the author of the letter is not only devoid of all sense of honor, but is too great a coward to do more than advance insinuations, and those only by letter. He has not the stamina to promulgate his falsehoods above a whisper.

But give such a man rope enough and he is sure to hang himself. A few years more of such contemptible practices and his star will sink in gall and wormwood.

So let him give heed and repent before it is most everlastingly too late.

Medical Politics.

It is the experience and opinion of many progressive men in the profession that many medical societies are run—not in the interest of science, but for the aggrandizement of a few medico-political schemers who are desirous of holding office and advertising themselves in this ultra-ethical way to the vulgar herd.

As a consequence of the office-holding ambition, medical societies are split up into cliques and rings, some of whom are like the pigs in the clover patch, while others are like the starvelings who are continually trying to break in. All momentous questions are decided by the sacred inner circle—packed meetings and other questionable methods being the levers by which the opinions of the majority are ruthlessly set aside.

Jealousies and unseemly quarrels are the natural outgrowth of the existence of offices in our medical societies. The only remedy is to abolish all offices excepting that of permanent secretary. A chairman should be elected at each meeting.

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By adopting this plan there would be fewer bones for hungry dogs to pick, and a spirit of harmony might eventually prevail in medical societies. With harmony would come better work and a more intense devotion to the strictly scientific objects of each society.

American Medical Association.

The meeting of the American Medical Association at Nashville, May 20, 21, 22 and 23, was largely attended, and characterized by excellent work. Dr. W. A. Briggs, of Nashville, was elected president.

A pleasant and hopeful feature of the meeting was the manner in which fossilism was sat down upon by the more liberal and progressive element in the association. The platform was as usual at the general session, filled with relics of the "once was," who persistently monopolized the discussions which arose in the progress of the meeting.

It remained for a delegate from Illinois to take the initiative in rebuking the selfishness and bad taste of those whose years and alleged wisdom had failed to bring generosity and courtesy in their train. Dr. H. N. Moyer, of Chicago, made a motion to the effect that all persons, excepting the president and secretary, who desired to address the association should do so from the floor of the house. The motion was put, and to the everlasting credit of the A. M. A., was carried by an overwhelming majority.

The citizens of Nashville vied with each other in extending a hospitable welcome to their guests. The members of the association will not soon forget their southern meeting.

The next meeting of the association will be held in Washington, and if the ability of the president-elect be a criterion, should be as great a success as that at Nashville.

The Evolution of the Infectious Diseases.

"*Progress*" for May, 1890, criticises the views supposed to have been expressed by Dr. G. Frank Lydston in a recent essay before the Illinois State Medical Society. After quoting this sentence: "Thus we have by evolution the spontaneous generation of the so-called specific poisons." *Progress* accuses the author of being a poor biologist. But *Progress* does not present the whole case as may be observed by a perusal of an essay entitled, "The evolution of the local venereal diseases," published in the N. Y. Med. Record for Mar. 15, 1890. In this essay will be found the following: "Now I do not wish to be understood as claiming that the germs may be spontaneously developed; what I do claim is, that by virtue of certain favorable circumstances of environment we have the acquirement of new and noxious properties by germs primarily innocuous." If the evolutionary theory as applied to infectious diseases be not correct, then it must be thrown out of court in the consideration of all questions in biology. As we study the host so must we study its parasite. We must apply the same laws of evolutionary progression and differentation to the germ, that we do to its field of action, i. e., the animal body. No other conclusion is admissible.

If the evolutionary theory of infection be not correct, then we must believe in the Mosaic account of Genesis, or as Huxley says, "the Miltonic theory," especially as applied to living germs.

Independently of our ability or inability to demonstrate the particular germ in each variety of specific diseases, give us a philosophical theory which will cover the life history of all germs.

In our frantic endeavor to catch the "bug," we are drifting further and further out into the sea of biological chaos and ignorance.

Having admitted the "bug" theory, let us reason together as to his life history, even though we may not catch him in every instance.

The Kentucky State Medical Society.

The Kentucky State Medical Society met at Henderson, Ky., May 14, 15 and 16th. The meeting was fairly well attended and an excellent programme was offered. The papers were of a high order and were well discussed. The report on Surgery, by Dr. Arch Dixon, which appears in this issue of the REPORTER, is well worth study. Dr. J. A. Ouchterlony, the retiring president, made a splendid address on the Medical History of Kentucky. Dr. Ouchterlony is one of those rare characters in whom breadth of intellect and a profound knowledge of medicine are combined. Such men adorn American medicine.

The banquet and ball tendered the society were brilliant affairs and afforded an excellent opportunity for a glimpse of the beautiful women for which Henderson is justly famed and of whom Kentucky is pardonably proud.

The public address at the Henderson Opera House immediately following that of the president, was delivered by Dr. G. Frank Lydston, of Chicago. Subject: "Materialism *vs.* Sentiment in the Study of Crime."

Great credit is due to the chairman of the committee of arrangements, Dr. James H. Letcher, for his zeal and industry in entertaining the society.

The social features of southern society meetings are such as our northern physicians would do well to copy. The slightest approach to affability is resented by the average northern doctor, as a menace to his overpowering and awe-inspiring dignity.

CORRESPONDENCE.

Cocaine in Obstetrics and Gynæcology.

Recently I have been using the anæsthetic properties of cocaine with such marked advantage in obstetric and gynæcological practice, that it seems desirable that its use in this department of medicine should be more extensively employed, and with the hope that this may call the attention of others to its value, who have not yet tried it in this field, I venture to record the results of a limited experience in its use.

Having been informed of its usefulness in alleviating the sufferings of labor, I determined to try it and had some vaginal suppositories of cocoa butter prepared, each containing five grains hydrochlorate cocaine. One of these was inserted into the vagina as far as the advancing child would permit, and about a half hour before the head was expected to press upon the perineum in its descent.

The suppository slowly dissolved, allowing the melted constituents to flow down the vaginal tract and be absorbed by the mucous membrane. When the head reached the perineum an almost painless relax-

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ation occurred, allowing the child to pass over the perineum and through the vulva with very little of the excruciating, tearing pain, generally felt at this stage of labor. Of course it had no effect upon the contractile pains of the uterus, but in each of the three cases in which it was used, my patients declared it was the easiest labor they had ever had, and they had had five, two and one, previous confinements respectively. Each patient was offered and declined the use of chloroform. One of them was very solicitous that I should have plenty of chloroform on hand to use "when the pains got so hard toward the last," but she declared that they did not get "hard," and so would take no chloroform.

Three cases do not generally have much significance in testing the therapeutics of a remedy, but it seems they might be accorded more value in such cases than in internal administration of medicines.

After the first dilating pains of labor are over and good progress is being made, the patient does not seem to suffer severely till the presenting part impinges on the perineum, and from that time till the termination the suffering is most severe. It is at this time that cocaine proves to be useful.

One of my patients, in the sixth month of her first pregnancy, called me to relieve her of a very sore, tender condition of the *introitus vaginæ*, complaining that micturition was very painful, walking caused distress by the friction between the lips of the vulva, and coition was simply impossible because of the suffering it caused her.

Examination revealed large varicocities of the vulva and vaginal surface and erosion of the mucous surfaces of the inner lips and introitus.

The gravid uterus was pressing with such weight upon the veins as to materially retard the return current of blood from the lower extremities and cause the lips of the vulva and walls of the vagina to feel like a mass of worms to the touch.

The parts were almost black from the congestion, and enlarged veins were beginning to show at places down the limbs.

The vaginal examination, especially with the speculum, caused her such pain that I at first felt unwilling to inflict further suffering upon her by any attempts at treatment.

I told her to powder the parts with starch to prevent the pain of friction, which she did with some relief, for a week. Then I determined to elevate that tumor by placing a disc shaped tampon of antiseptic wool at the upper part of the vagina, allowing the uterus to rest upon it as upon a buffer. Half an hour before inserting the wool tampon, I had her place a five grain cocaine suppository, rectal size, up the vagina. The result was a painless and very satisfactory application of the tampon.

As there was some cellulitis I used antiseptic glycerine on the tampon, which was left in place six days, removed, the vagina syringed out and a new one introduced as before.

This treatment has been pursued six weeks now, with the result of relieving the pressure from the uterus to such extent as to allow the veins to decrease somewhat in size, the erosions have healed and she is very comfortable.

My instructions to have her lie down and rest four or five times a day, have been only partially complied with.

It was only intended to relieve her pain till after delivery, the decrease in the size of the veins being somewhat unexpected.

With the intense pain and vaginismus, the treatment would have been impossible except for the use of cocaine.

It has also proved useful employed in the same way in examinations and treatment of another case of vaginismus, occurring with uterine trouble.

In the first examination and treatment in a case of a virgin, it also proved very satisfactory, making that task much less painful and disagreeable than is ordinarily the case.

I hope these few remarks will lead others to give it a more extended trial than I have thus far had time to do, believing there is a wide field of usefulness for it in allied cases.

A. J. C. Saunier.
181 W. Madison St.

Chippewa Falls, Wis., May 28, 1890.

Editor Reporter: The last (May) issue of your journal was particularly interesting to me. Preëminently so the doctors' address by A. E. Hoadley, M. D., and I beg leave to predict great fertility for this kind of instruction, given in this manner to the general public.

But to one paper in said issue I wish to take exceptions—the paper on evolution, by Bayard Holmes, M. D.:

The author of said paper "has undoubtedly worked in good faith and with sincerity and expected naturally as reward for his labor, general approval of the ideas thus elicited. He therefore seemed much disappointed when the mirror of discussion reflected the pretended masterpiece, as a picture of ridicule! But how could the mirror, which the he-goat broke, help that he had horns?

The discussion by J. J. M. Angear, M. D., was logical—in fact nothing more or less than the recitation of the author's own statement with an entreaty for explanation. Consequently if the discussion was ridicule, the original paper was ridicule; and I hesitate not in saying that the reply to the discussion of J. J. M. A., was unjustified and unfounded, as the paper was misleading and not appropriate.

May the author of this paper on evolution rest assured that educated, especially the older men, know Darwin's theory and its fate. But does the author know? I will not refer to Darwin's contemporaries and philosophers of the past as Agassiz, Heer, Naegeli, Arby, Bishoff and M. Wagner, etc., etc., but only to the present or rather last representative of Darwinism, the illustrious Virchow.

It was in Vienna, during the summer of 1889, that the Antropological Society met to celebrate the 20th anniversary of modern, progressive Darwinism. Rudolph Virchow, founder and president of the society, the soul and life of the assemblage, rose from his chair and—hear ye, second-sprout-Darwinians—declared all their work, experiments, investigations, researches, observations and collections, negative to the stability of Darwin's theory, he made there and then the obituary sketch on Darwinism; dissolved the society and has given up his philosophy in despair. The death-blow was given to the once hopeful youth, with the humbling word Fefelli.

Who will now, in the face of this irrevocable fact, venture to inflate the fraudulent mummy anew, and

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impose the silly fancy of its vitality upon us? Fudge! I know that microbe hunting is getting somewhat monotonous and don't "take" so well on the old plans, but there is no use to stir up the primitive slime of Darwin for the sake of pastime and lose thereby sight of what we have got.

Darwinism is dead, sir! and no pell-mell of collected nonsense will ever bring it back to life. Set down! Next! JOHN HUND, M. D.

ABSTRACTS.

AN UNIQUE CASE OF HABITUAL CONSTIPATION. Dr. Joseph M. Mathews, *Medical Mirror*, March, 1890. —In July, 1889, was called in consultation to see a young lady of eighteen years of age, style brunette, weight about 115 pounds, height 5 feet 7 inches, who gave the following details of her case: About eight years previously noticed a constipated habit, the bowels frequently going several days without an action. Purgatives were resorted to, but often failed in effect. Soon afterward the time between actions became weeks instead of days, and in spite of treatment and advice of physician after physician the time between actions gradually increased, so at time of consultation it averaged four months. Seven months sometimes elapsed without a motion of the bowels. The urine had been drawn off with a catheter for several years, as she was unable to pass it naturally. Two years before had passed a good sized stone from the bladder. Appetite fair, but was seldom hungry.

The parents corroborated everything the girl said, and said that a movement from the bowels was not only an event in the family, but to the neighborhood also. The movement was accompanied by such pain that she would scream aloud, also by a swooning spell and great contraction of the muscles.

A careful examination of the patient was made the second day under chloroform. Complexion muddy, tongue slightly coated, pulse sixty, temperature normal, pupils dilated, flesh fairly firm, no odor from body, no enlargement of abdomen, either tympanic or otherwise, menses regular and normal in quantity.

The bladder was found to be normal except as to size, being quite large, but free from stone. The rectum and colon was then explored, but nothing unnatural was disclosed. A large sized rectal bougie was introduced and through it the colon was flooded with hot water. Finding nothing abnormal, the chloroform was stopped, for the patient was in a wonderfully feeble state, the pulse being so low that the physicians feared death. However under stimulants she recovered, but went into a cataleptic condition, which lasted thirty minutes. In a few days she recovered her usual health, and all the treatment has been as it was prior to the examination, viz., of no avail. The opinion of the physicians was that such a condition was entirely neurotic in origin, and kept up by a nervous hysterical condition.

TWO RARE OVARIAN TUMORS. Dr. Virgil O. Hardon, Atlanta *Med. and Surg. Journal*, May, 1890. *Case 1. Sarcoma of Right Ovary—Ovariotomy—Recovery.*—P. W., age 54, widow, multipara-menopause occurred six years ago. Health had been good until April, 1889, when she noticed a lump in the right side, which had gradually increased in size and was quite large on coming under Dr. Hardon's observation. Health good excepting the discomfort experienced on lying down. On examination a movable mass could be felt in the abdominal cavity, with attachment on the right side. Diagnosis, solid tumor, floating in ascitic fluid, the nature of the tumor not determined.

The operation was performed Jan. 20, 1890, at Atlantic Med. College. The abdomen was opened in the median line and a quantity of ascitic fluid evacuated, estimated at three gallons. The tumor, which was free from adhesions, was lifted out of the abdomen. It was attached to the right broad ligament by a slender pedicle, consisting of the normal attachments of the ovary. The abdomen was sponged out and about a pint of gelatinous material removed. The abdominal incision was closed and dressed in the usual manner—no drainage. The patient made a rapid recovery and returned home completely cured the 15th of February.

The tumor weighed three and one-half pounds and resembled a fibroid tumor of the uterus. At the point where the pedicle was divided, on its lower side could be seen the remains of the ovary from whose surface the tumor seemed to grow. A microscopical examination revealed the fact of the disease being sarcoma of the right ovary.

Case 2. Superficial Papilloma of both Ovaries—Ovariotomy—Recovery.—M. P., age 62, multipara-menopause occurred at 45 years of age. Health had always been good. In November, 1889, she first noticed general enlargement of abdomen. This increased so rapidly that she soon became unable to either stand up or lie down and could only sit propped up in bed. General health good, the greatest discomfort arising from the great bulk of abdominal accumulation.

External examination showed the abdomen to be filled with ascitic fluid. No tumor could be felt through the abdominal walls. No diagnosis was made, the symptoms pointing to some diseased condition within the abdomen.

On March 15, 1890, the operation was performed. The abdomen was opened in the median line, and a large quantity of ascitic fluid evacuated. The surface of both ovaries was found to be completely covered with papillomatous growths, identical in appearance with cauliflower cancer of the cervix. The left ovary contained a cyst as large as an English walnut, entirely independent of the papilloma. The right ovary was as large as a goose egg, while the left was as large as a man's fist. The disease was confined entirely to the ovaries and there were no adhesions to neighborhood organs. Both ovaries were removed, the abdomen washed out and closed without drainage. The patient made a good recovery, her highest temperature being 100.2.

INDIGESTION.—For indigestion the external application of something warm, a piece of flannel, or anything to keep the stomach warm and promote a supply of blood, is sometimes a great benefit. In taking hot water internally, it is best to sip it by spoonfuls, waiting a moment after each for an eructation of the gas disengaged by the hot water from the fermenting contents of the stomach.—*Dietetic Gazette.*

There will be erected in a short time a hospital in the City of Chicago, which will be under the Jewish denomination.

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Book Reviews.

The Theory and Practice of Obstetrics: Including Diseases of Pregnancy and Parturition, Obstetrical Operations, etc. By P. Cazeaux. Remodeled and re-arranged, with additions and revisions, by S. Tarnier. Eighth American Edition. Edited and revised by Robert J. Hess, M. D., with an appendix by Paul F. Munde, M. D., with chromolithographs, lithographs, and other full page plates. and 175 wood engravings. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut street. 1889. Cloth, $5.00. W. T. Keener, Chicago.

Every physician is acquainted with Cazeaux, or should be. The work has been accepted for some years as a standard work on obstetrics, and is now in its eighth American edition. The text of Cazeaux & Tarnier is preserved intact, and as there has been much progress and scientific discovery in obstetrics the additions have been introduced separately. When one sees notes and suggestions by such men as Perro, Libone, Chiara, Morisani, and our own Munde and Hess, some idea of the value of the work can be imagined.

The Functions and Disorders of the Reproductive Organs of Childhood, Youth, Adult Life and Advanced Age; considered in their physiological, social and moral relations, by William Acton, M. R. C. S., late Surgeon to the Islington Dispensary, etc., etc. Seventh Edition. Philadelphia: P. Blakiston, Son & Co., 1888; Chicago: W. T. Keener. pp. 260, cloth.

The physician who makes a specialty of sexual disorders, will find much in the above work to interest him. The writer has had a long and varied experience, and presents his subject with a familiarity born of the same.

A Treatise on Materia Medica, Pharmacology and Therapeutics, By John V. Shoemaker, M. D., A. M., and John Aulde, M. D. Volume I. Philadelphia and London: F. A. Davis. 1889.

Volume first consists of two parts. Part I. treats in a general way of Materia Medica, Pharmacy and Therapeutics, leaving the discussion of the relative merits of each to volume two. Part II. discusses the various remedies which cannot properly be classed as drugs, such of electro-therapeutics, hydro-therapeutics, masso-therapeutics. The use of oxygen, proper application of heat and cold, employment of mineral waters, metallotheraphy, transfusion, hypnotism, in fact every branch of therapeutics used in treatment of disease. The fact of Drs. Shoemaker and Aulde being physicians of national reputation and wide experience speaks for itself in regard to the excellence of the work.

Swayne's Aphorisms. Ninth Edition. P. Blakiston, Son & Co., Philadelphia, $1.25

The fact of having passed through nine editions is a sufficient guarantee of the value of this little manual. Designed especially for the student, and of a size convenient for the pocket, it serves its purpose admirably, which is that of a counsellor in extreme cases. A few suggestions as to timely remedies, and points enabling the student to discover the necessity of sending for assistance in a case of urgency, make the work a valuable companion.

The *Medical Chips*, a recent publication from St. Louis, has changed its name to *St. Louis Clinique of Physicans and Surgeons*. It is much improved, and we look for some good work to the profession gleaned from its columns.

New Manual of Alkaloidal Therapeutics.

From the French of Dr. Ad. Burggraeve.

Translated by C. C. P. Silva, M.D., Prof. Therapeutics, College Physicians and Surgeons, Chicago; Prof. Therapeutics, Chicago Ophthalmic College; Prof. General Medicine, Chicago Polyclinic; and W. T. Thackeray, M.D., Member Amer. Med. Assoc., Ill. State Med. Asso., American Phar. Asso., Iowa Phar. Asso., Chicago Med. Soc.

Entered in the office of the Librarian of Congress, Dec. 1, 1887.

The dressing of the wounded ought to consist, before all, in preventing putrid infection; the most simple injuries fester when they are not well cared for.

Animals cure themselves of their injuries by licking them; the saliva, which is a slightly alkaline liquid, prevents the wound from drying, and becoming inflamed. It is not then so much the air which irritates the wound, as its drying action.

The phthisical when we compel them to respire warm and moist air, suffer less. They are sensible of relief when with this air we mix balsamic vapors.

Every recent wound should then be treated with tepid water; but by reason of the evaporation, cold is caught, and thus becomes likewise a cause of irritation, which produces itself under the form of fever and nervous accidents (*tetanus*).

It is better therefore to confine the wound in a vaporous and emollient medium. This may be obtained by re-covering it with gummed tafeta, and with a thick bed of wadding.

When the wound is contused, it must be dressed with phenated linseed oil, in the proportion of two per cent. (of the acid. Trans.). We thus prevent putrifaction, and we diminish the suppuration. It is certain that the wounds dressed after the method of Lister proceed rapidly in *cicatrization.**

The dressing of Lister consists: 1st of carefully washing the wound with carbolized water, in a manner to express all the blood and exudates which is possible to give place to putrifaction; 2nd, in approximating, as much as possible, the edges and the covering with a gummed tafeta or *protective;* covered with several layers of swan-skin or lint, soaked in carbolized oil; 3rd, in enveloping in a waxed cloth so as to prevent evaporation, and a thick bed of wadding prepared with salicylic acid; and finally a bandage moderately tight. This dressing should remain in place one or two days. If the wound is deep (a stump after amputation, for example), before reuniting the edges with metallic sutures, we place to the bottom a rubber drainage tube, in order thus to obtain reunion of the edges by first intention and by second intention of the bottom. This drain must be maintained so long as the wound suppurates, and is utilized by passing each day detersive injections and carbolized water.

The principle which prevails to-day is therefore that of occlusion. Formerly, we packed wounds with charpie and we thus provoked the accidents of pyemia, such as osteo-myelitis, angeitis, neuritis and myasitis.

In the fractures complicated by open wounds the same principle of occlusion ought to be applied. To this end, after reduction, we treat the wound as be-

*The microscope gives us the reason. When we obseerve by a strong lense, a recent wound, there is seen to appear a crowd of corpuscles. If we place one of these little bodies under the object glass we perceive that they are living bodies, that is to say animated with proper or amyboid movements. By mixing a microscopic quantity of the phenated oil with aqueous medium in which the corpuscle moves, we see it soon cease its movements and die. It is the same experience that we have with the *acarus scabiei*, by treating them with oil of turpentine. All of the strongly odoriferous substances, like the essential oils, kill parasites. It is probable that it is by anaesthesia. The suppuration would therefore be due to the white corpuscles coming to the surface of the wound.

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fore described, that is to say we press out any exudations and wash it, using carbolic water and a sponge, and it reunites by first intention. If the fragments are too pointed, we resect them, and if they tend to protrude, we fix them with ivory points after the manner of carpenters, that is to say that after having bored some holes by means of a drill, we then drive two or three pegs, which we cut off close to the bone, and we reunite the wound by numerous points of metallic sutures. It is very important that occlusion should be perfect, in order to prevent the air from penetrating to the fracture and thus corrupting the pus. If we have to do with very sensitive subjects we must first anæsthetize them by means of the bichloride of methylene, because it is useless to make the wounded suffer when we can avoid it without danger. The wound is then covered with protective and a pad of lint or cotton wadding soaked in carbolized oil. This done, we envelope the whole member in a thick layer of wadding. We apply pasteboard splints, which we fix in place with a roller bandage, covering the surface with starch paste. When this is dry we make a fenestra opposite the wound in order that it may be dressed daily.

We should say a word about those ameliorating means which have taken from surgery pain and fear:

1st. Anæsthesia. We know how many phases this method has passed. First ether, then chloroform, then injections of chloral, and finally the bichloride of methylene, which may be considered as definitive, since with it the patient is in no danger. The bichloride of methylene does not show its action upon the heart as does chloroform; the patient's sleep being the same as the natural sleep; the countenance remaining rosy and bright. It would appear that the circulation is facilitated. There is no intermediate period of agitation or intoxication as we have with chloroform. The surgeon has, therefore, but to occupy himself with his patient—*perinde ac cadaver.*

2d. Prevention of Hæmorrhage. That which formerly troubled the surgeon, that which obliged him to terminate the operation before he had given all the necessary attention, was hæmorrhage. Thanks to the bandage of Esmarch, he can now operate as in the dissecting room; likewise the operation is not so hurried—it is done with calm and reflection. We can make retouches, the same as the tailor trims his cloth.

Before the application of the Esmarch bandage, there are certain precautions to be taken. Thus, as we force the blood from below upwards, we should assure ourselves that there is no danger of internal congestion. If the patient is plethoric, it would be well to allow a certain portion of blood to escape. This is so far true that recently an accoucheur availed himself of the use of the Esmarch bandage with lying-in women after great loss of blood. He applied the elastic band to each inferior member, in this manner narrowing the circulation by a good third.

When we operate upon suppurating limbs the band must be applied at first from above downwards, for the purpose of expressing all the vitiated blood. Afterwards, above this another bandage, in order to prevent the afflux of new blood. This precaution is always necessary in order to prevent putrid infection.

3d. Carbolized Spray. Pending the whole duration of the operation we should project upon the raw surface a spray of water impregnated with carbolic acid. These sprays are in order to kill the micro-organisms, so that they shall not be transformed later into purulent or other corpuscles. When we make an ablation of a cancer, we take great care that none of the diseased tissue remains in the wound; but that which we cannot prevent is the infiltration of the micro-organisms. Now it is probably this which causes the recurrence of the cancer.

4th. Animal Ligatures. The operation terminated, we proceed to ligate the vessels. Formerly we contented ourselves by tying the principal arteries, and we allowed the oozing to arrest itself by coagulation. But it is the coagulated blood remaining in the wound which gives rise to putrescence in the stump. We understand, therefore, that it is important that no particle of extravasated blood rests in the wound. It is for this that all the vessels must be tied *without distinction.* We seize those that are gaping and after having isolated them, we tie them with catgut soaked in carbolized oil. These ligatures have the advantage that they may remain in the wound; therefore we may cut them off short. Those vessels which cannot be seen, or rather which are suspected because of their oozing, are seized with the artery forceps, and we include them in a ligature *en masse.* There should be no fear of including nerve filaments. These follow, in general, the principal arteries.

Thus then, we tie all vessels which ooze—arteries and veins. When all the ligatures are in place we loosen the tourniquet until the wound ceases to bleed.

We then cleanse with fine sponges soaked in carbolized water, which we change each time that it is used, in order to prevent the transportation of micro-organisms.

If the wound presents pale points, we touch them with a solution of chloride of zinc. This precaution is above all necessary in case of cancer or ulceration of a malignant nature.

We dress afterwards as we have stated above.

INTERNAL MEANS.

1st. Regime. The diet of the wounded should be analeptic; that is to say, calculated to refresh the blood. Bouillons, animal jellies and milk food should form the base. Successively we allow the solid aliments, also wine and beer. Formerly we kept the wounded very weak, and we nourished thus the fever; at the same time we augmented the danger of morbid absorption. It is necessary to consult before all, the digestive power of the patient; to keep the tongue clean by means of seidlitz salt. We can then nourish the wounded as before. We consider this point as extremely important. A wound is not a disease, but it is necessary to prevent it becoming such. In few cases but rarely—we give cinchona in decoction. We have remarked that this medicine, when it is not well borne, gives rise to diarrhœa; and this prevents the giving of food. The mucillaginous bitters, such as colombo are preferable; but we substitute with advantage quasseine [three or four granules a day].

Sleep at night must be solicited by the regularity of the functions. We abstain thus, as much as possible, from narcotics. Nevertheless we can in need give three or four granules of narceine, which has not the inconvenience of morphine regarding constipation.

2d. Antifebrile Treatment. It is necessary to prevent the tendency to fever, by the alkaloids. A distinguished surgeon, Chassaignac, was in the habit of administering during a few days before every grave

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operation, the tincture of aconite in a potion, in the proportion of two or three grammes per day. It is this which he called *surgical training*, as the horses which we train for the course.

The practice was judicious, since aconite moderates the fever. It is in the same order of ideas which we give aconitine. However, we make here a remark relative to traumatic fever. This fever ought not to be considered as an extra-physiological reaction, any more than the fever which precedes digestion in delicate persons. It is, on the contrary, a preparation for the work of reparation; therefore it is not followed by that profound depression which causes a paroxysm of pathologic fever; it is dispelled ordinarily by a good moisture of the skin, etc., etc., and calm sleep. It is not, then, that fever which it is necessary to prevent. It is even necessary in some cases, and it is by this title which the ancients have been able to raise altars to the goddess, Fever. *Febris diva.* Now, aconitine, far from preventing this fever, favors it; makes it to evolve with more calmness and regularity; removes all mental agitation—things so necessary with the wounded in order to recover from their moral shock. But that which it is necessary to prevent is the inflammatory fever, commencing with violent chill, dry pungent heat, nervous prostration and disturbance of all the functions of nutrition, principally of digestion. Every elevation of temperature above 102¼° F. (39° C.), every acceleration of the pulse beyond 90 or 100 should be checked energetically; not by the debilitants, but on the contrary by the excito-motors—that is to say, the defervescent alkaloids. In this case we give aconitine and veratrine [a granule of each together, until sedation].

If the urine is scanty and turbid—like muddy water after a great flood—we give digitaline [a granule every hour until diuresis].

If the patient is in a great nervous weakness, somnolent, we administer arseniate of caffeine [two granules every half hour until complete awakening].

We may remark that continuous somnolence in the wounded indicates a commencing congestion of the brain. Sleep, in order to be physiological, that is to say reparatory, ought to have periodicity. It is even best to keep the patient awake by amusing him; it is also necessary to allow him to sleep when he is fatigued. In order to obtain this functional equilibrium, a good alimentation generally suffices. The Salernian proverb: *Somnum post prandium nocuum*, is only true when one delivers himself to the excess of the table. Again it is necessary to sleep off his wine.

With the wounded patient, that which is the more urgent, is the reparation of the blood. It is necessary then to nourish as much as possible, by exciting gently the digestive forces by quasseine, and by keeping up the regularity of the bowels by seidlitz salt.

An alimentation sufficiently saline is necessary to the wounded, in order to restore to the blood and humors the sodium chloride, by reason of the losses which they have suffered.

We have said previously that the sodium chloride disappears from the urine in the majority of severe inflammations. It is the same after great fatigue, and after abundant losses. We have recounted in our little pamphlet: *La longevite humaine ou l'art de prolonger la vie*, the following anecdote, which indicates great good sense among the people, despite the prejudices met with.

THE INTELLIGENT DROVER.

"Salt restores from fatigue." Here is a fact which we have picked up on the road one day when we encountered an individual traveling the same route with us. This was a person of boorish appearance, but with an intelligent air. As we journeyed he informed me that he was by occupation a drover, and that he drove cattle destined to the shambles. At the commencement of his driving his beasts lagged on the route from fatigue, "but now," said he, "they do not do so, because I have found the remedy."

"And what is this remedy?"

"It is this: On departing I provide myself with coarse salt, and when halting at evening my animals refuse to drink, I force a handful in his throat. Almost immediately after the animal drinks and eats. The next day it is rested and able to resume the journey."

The simple good sense had therefore taught this boorish man that which science has made known later. That is to say, that salt serves in the reconstruction of the blood and the tissues. A Belgian chemist, M. Berge, has studied the action of the sodium chloride upon the living organism, and he has proved that without salt in the plasma of the blood, the fibrin, the albumen, the musculin, the ostein—that is to say, all the protein products which enter into nutrition, become solidified, and that the red globules of the blood are dissolved. These globules are decomposed in a solution of pure albumen, whereas, with an albuminous water (as the serum of the blood) containing only a hundredth part of common salt, preserves perfectly these globules without their being altered. Individuals in whom the saline elements are deficient in the blood are pale, chlorotic, œdematous, albuminuric; their appetite disappears, the secretion of the saliva and gastric juice is diminished. Now, this is the case with the wounded and those who have been operated upon when they have a too insipid diet. It is pleasing, when our good sisters in distributing nourishment to our patients, to see them take a full hand from the salt box.

Without returning to what we have said upon the action of common salt, or sodium chloride upon the blood, we may recall that the blood absorbs oxygen in direct ratio to the sodium chloride which it contains. That it stimulates in the same proportion the chemico-physical act of nutrition, and provokes the expulsion by the kidneys, the lungs and the skin, the azotic principles of the regressive nutrition of the tissues.

The hygiene of the wounded thus understood, surgery, far from being prejudicial to them, allows them, on the contrary *de faire peau neuve*, or a new chance for life. Each moment we receive into our service at the hospital for textural wounds, lymphatic infants, debilitated by work beyond their strength; some of them suffering from pulmonary tuberculosis, and who, thanks to a reparative regime, recover the health of their age, but, alas! they return to those pandimoniums which are named manufactories, and which constitute necessary acompaniments to civilization—for it is necessary to live after all.

We cannot complete this chapter relative to the treatment of the wounded, without a word upon purlent infection or septicæmia. All that has been advanced upon this subject ought to be considered as simple imagination—the more often as thoughts of those not clear-sighted—because these vibrions, these bacteria are innocent of all the evil with which we

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reproach them.* They are less the cause than the effect, and could respond as the lamb of the fable:

Comment l aurai-ie fait se ie n' etais pas ne?

We cannot, however, deny their existence. Dr. Beale proved upon animals attacked with the *peste bovine* (cattle plague), that animalculæ endowed with a proper vital activity, fixed themselves upon the mucous membranes and multiplied, penetrating into the blood and producing nervous disorders which characterize that fever, decomposing the red globules causing the white globules to burst, and determining thus a derangement or obstruction of the circulation (emboli.)

This is the case in septicæmia, or we see appearing in the wounds these inferior organisms, which are attracted as flies upon a decomposing body. Where do these organisms come from? Are they spontaneously devoloped? We cannot admit that they are. The germs are found in the air. That is why this cannot be sufficiently pure. At the end of the war of 1870 we visited the ambulances at the frontier, and the spectacle which we had under our eyes has been far from edifying. It was war in all its horror—putrefaction not of the dead but of the living! The wounded were covered with flies to the point that no longer presented a human appearance, and their escaping breath a pestilential air. They were thus devoured at once internally and externally. They should have given them antiseptics, but the arseniates were in default in their pharmacies. Having always with me a pocket pharmacy, I was able to distribute some tubes of arseniate of quinine which rendered, I have recently heard, great service.

Septicæmic fever should, therefore, be treated as a miasmatic fever. Consequently, by arseniate of quinine. Then, when we are successful in breaking up the paroxysm, aconitine and veratrine in order to regulate the temperature and pulse. At the same time we cool the blood by the seidlitz salt.

If new wars should break out

* * * *Di, tale omen avertant!*

it would then amply supply the ambulance with alkaloidal medicaments.†

We come to pronounce a word for alkaloidal therapy. Well, we have nothing to retract. Why should not physicians rally to a method which is at once sure, expeditious and agreeable, and which does not alter the principles of Hippocrates? Which permits, on the contrary, the direction of the vital movements with as much precision as the horseman his steed?

We do not complain. Our little brood before the public during ten years (1883) with each day made enormous progress, as is attested by numerous letters registered in the *Repertoire*, to serve one day as a history of this great reform in therapeutics.

Even recently, we received from a popular practitioner, a letter from which we extract the following passage: "I cannot prevent myself admiring you in the generous and intelligent efforts which you do not cease to make with an ardor wholly juvenile, in order to place therapeutics upon a solid and rational base. When we bring to the success of an idea, excellent in itself, an activity and a conviction as powerful as those which animate you, that idea ought to succeed despite all the obstacles which it meets in its passage. It is the future which is reserved for the cause which you defend."

We have replied to this friendly *confrere*, that the task had been rendered easy by the support which, for the most part, physicians had willingly given us. Moreover, this cause does not depend upon us, but the entire medical profession, each knowing that it is his duty to defend the heritage which our common father bequeathed us, as it was by him received from his predecessors. The *repertoir de therapeutique* is the same as the votive tables in the temple of Cos: each thinks it his duty to inscribe his observations.

We have not made—as Hippocrates in his time—that the register. Therefore, this Manuel is but a feeble resume of a doctrine which, from the first day that it appeared, has been welcomed by general sympathy.

It is founded in truth, and the truth is always sure to triumph.

RESUME.

A book, however short it may be, requires to be summarized. The author ought to economize the time of his readers, by giving them in as few words as possible, that which he has to say.

To teach them, would here be a displaced pretention. We are addressing our equals—to practitioners as ourself.

It is precisely for this that we have rendered our work as short as possible.

It was not necessary to describe the disease—for all physicians know them—but we have set forth their nature from a vitalistic point of view.

Measure the vital forces, manage them as a prudent general manages his troops in a hostile country, this should evidently be the tactics of the physician.

Therefore, it is the dynamic character of diseases which we must have principally in view.

The whole of therapeutics can contain itself in these three indications: Sustain the forces, combat the fever, modify the nutrition. And in the three kinds of agents which correspond to them: the alkaloids, the metals, and the metalloids.

In medicine there are no specifics—but only vital modifyers.

Nature has not provided for that which we name *beautiful cases;* that is to say, the horrors of pathological anatomy. It sufficed her to create the means of preventing them, and to give us the intelligence necessary in order to use them. And here we repeat again with our confrere Amedee Latour, at the risk of appearing tiresome: "Real medicine has deviated from its natural course. It has lost sight of its noble aim, that of healing and relieving. It has rejected therapeutics. Without therapeutics, however, the physician is only an inutile naturalist, passing his life in discovering, classifying and naming the diseases of man. It is therapeutics which elevates and ennobles our art. By it alone has it an aim; and I may add, that by it alone can this art become a science."

We understand it. An inutile naturalist! We say a sad naturalist, because he has before his eyes the spectacle of his own powerlessness.

While natural history reveals to us the sentiment of life, anatomo-pathology places before us the spec-

* Our author is decided in his views upon bacteria, but not more so than some other eminent writers Our note, however, is to record a theory which we have heard advanced, and which deserves to be remembered and studied, to wit.; that putrid infection is not due primarily to bacteria, but to the results of their decomposition and consequent formation of cadaveric alkaloids or ptomaines.—TRANS.

† The French Government has recently ordered the army and navy to be supplied with the alkaloidal granules.—TRANS.

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tacle of death in all its hideousness—that is to say, the autopsy.

The principle of the jugulation of diseases in its commencement, this it is which attracts to the physician the confidence of the patients, since knowing what may come, they claim the succor of the art in time.

The physician will thus be the counselor of the family, which guards itself against change—as their lawyer when he protects them by wise counsel against the expense and ennui of lawsuits.

It will result in the rapport of confraternity and professional dignity between physicians. They will avoid the caprice and dishonesty of their clients—for a patient who changes his physician frequently is more often a bad debtor.

Medicine is a religion which has for its article of faith, *vitalism*. And without this last there is no salvation—that is to say no healing possible.

Organicism is materialism hopeless and despondent—it is powerless against death.

Nature has distributed the principle of life everywhere. She has given to animals blind instinct, and to man conscious intelligence. Why estimate ourselves below the brutes?

It is true that we have our excesses against us, our thirst for pleasure always unsatiated. This is why those animals (we mean those which live in a savage state) do not require medicine. They live according to the laws of nature. But since civilization is a danger, we protect ourselves by our intelligence.

Epidemics are due to the infinitely small organisms. We do not treat these last as of the infinitely great, or assign to them the part of fatalism. This part would be too fair.

Let us know to draw from therapeutics everything which it permits. We have in quinine the anti-miasmatic agent *par excellence*. We are not restricted to that; we should know to profit by other alkaloids, in as much as they are *vital* agents; and the metals and metaloids in as much as they are *physical* agents. Above all we understand that we are not all material. "Dust, we all return to dust;" but before that, we have a role to execute, a moral duty to perform. Our body is but our material envelope—our rags, as has said a great thinker—but under this beggar's dress, there is the life which animates—it is from this point of view that all men are equal. Laces or rags, what does it matter?

Medicine is therefore a science eminently philosophical. To be only materialistic would be not to understand our place; it would be supporting Moliere, who clothed the physicians of his time with the robe of Sganarelle. We have always regretted that this great genius had not a clearer conception of the importance of medicine. Or possibly he viewed it from a philosophical standpoint which attacked those mummeries which physicians (so-called) had practiced, and which no one could encounter without laughing. Therefore, nothing is more dismally ludicrous than his *Desponandies* and his *Tomes*. If we would not pass as the flatterers of death, let us be ministers of life; and, to this end let us know all the means which nature has given to us with so much prodigality. Let us know to reason, but let us know to act. To reason is synonymous with unreason when we step aside from the limits of the humble understanding.

Beaumarchais was right when he said that that which distinguishes us from *other beasts*, is not that we drink when we are not thirsty and make love in all seasons, but that we are ready to debate upon all things.

De omni re scibili et de quibusdam aliis, said Pic de la Mirandole, who has been the father of pedants—a race which will never be extinct, because it is unconscious in its pretended science. *Verba et voces!*

In science we see consequently humility. We understand that this which makes the genius of the man is to know that there are those things which he can never know. We employ ourselves with the essence of things, but without searching thoroughly. We admit the life, but as one of the mysteries of nature. We create the high priest of Isis, but without the desire to obtain the secret. This secret, when we all have discovered it, will be perhaps the end of all.

LOVE AND THE DOCTOR.

The doctor and the God of Love are much alike, they say;
Because their services are called upon both night and day.
Ah! there's a resemblance.
The one is very famous when he groweth gray and old,
The other reputation has in Springtime's youth, we're told.
Ah! there's a difference.

The doctor and the God of Love are creatures very blind,
For in affections of the heart they make mistakes we find.
Ah! there's a resemblance.
The one is grave and dressed in black, with him a smile is rare,
The other laughs, ne'er dons his clothes and runs about all bare.
Ah! there's a difference.

The doctor and the God of Love in danger all men seek,
They both console and sympathize and strive to heal the weak.
Ah! there's a resemblance.
The doctor, when his fame is great, we all are bound to pay;
From Love, when all its sweets are gone, men silent shrink away.
Ah! there's a difference.

The doctor and the God of Love give many worldlings strength,
They aid our struggles throughout life until death comes at length.
Ah! there's a resemblance.
The one, with good intentions, but simply wounds to cure,
The other, with caresses, gives wounds we can't endure.
Ah! there's a difference.

The doctor and the God of Love, by looking in our eyes,
Can tell if soul be sick or well, can read the truth or lies.
Ah! there's the resemblance.
The doctor only feels the pulse, pressing our hands apart;
But Love goes deeper into us and touches e'en the heart.
Ah! there's the difference.

In spite of all my ninety years I still indulge in rhyme,
Yet Love has flown away, my heart's the doctor's every time.

—*M. Guitard.*

Prof. W. H. Byford, well known as a specialist in diseases of women and an eminent writer on this subject, died at his home in Chicago, after a brief illness on May 21st. He was for many years connected with prominent colleges in the city, and also surgeon to the Women's Hospital. The profession mourn the loss of a man whose place will be as hard to fill as that of Dr. Byford.

A mysterious disease called La Nona has made its appearance in France, the victims of which sleep for several days, and die from exhaustion resulting therefrom.

An Institute for the deaf and dumb will be built at Mount Airy, Philadelphia.

The International Congress which will take place at Berlin this summer, is expected to be a very important meeting, and it is estimated that the attendance from this country alone will extend into the thousands.

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Western Medical Reporter.
A Monthly Epitome of Medical Progress.

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ORIGINAL ARTICLES.

The Curative Treatment of Epilepsy by Surgical Means.

BY CASEY A. WOOD, C. M., M. D.

Instructor in Ophthalmology and Otology Chicago Post-Graduate Medical School.

"If I wished to show a student the difficulties of getting at truth from medical experience, I would give him the history of epilepsy to read."(1)—*Oliver Wendell Holmes.*

The Father of Philosophical Medicine might also have directed the student to confine his studies to the treatment of the disease and to set aside his summer holidays for the task. And as the long days "waxed and waned" he would at least be impressed by the arduous nature of the undertaking even if he did not arrive at any conclusions worthy of being regarded as *truth.*

Probably the most bewildering observation—and even the most superficial reader would make it—is that success, as the story reads, has attended remedies, both medical and surgical, that bear no relation to what was then known or what has since been learned of the etiology of epilepsy. "There is hardly anything," as the Autocrat elsewhere reminds the student, "which has not been supposed to cure it." It might, perhaps, be pleaded in extenuation of this unsatisfactory condition of its therapeusis that the causation of epilepsy is probably as various as the proposed treatment is diversified. If one remembers the definition given by the greatest living authority upon the subject, viz: that epileptic convulsions may arise from a "discharge" of *any* of the gray matter of the encephalon which subserves sensori-motor processes, (2) it is cogent to recollect that practically every part of the organism is directly connected with some encephalic sensori-motor center! The clinical proofs of the truth of Gower's definition are many and interesting. First of all we have seen how gross central lesions affecting motor areas may produce epileptic convulsions, giving rise to that form of the disease known as "Jacksonian" epilepsy. To these we add those definite peripheral irritations which have long been known to issue in localized cerebral "storms." Their name is legion and their *locus* every "nerve ending" of the body. They stretch all the way from an ingrowing toe-nail to a scar on the scalp, and they include equally a lacerated uterine cervix, an ulcerated tooth, a spine on the nasal septum, a weary ciliary muscle or a foreign body in the meatus auditorius. Happy is the surgeon who, in a case under his care, recognizes one or other of these as the source of the convulsive seizures. It may be the chief or only *fons et origo mali* and its removal often means a complete cure of the disease.

Cases where the exciting cause was discovered and its relation to the diseased phenomena recoghized, and where its removal brought about cure, are among the most interesting reading in medical literature. The reports of recent removals of brain tumors and the other advances in cerebral surgery, for which the profession is primarily indebted to the work of such men as Victor Horsley and Macewen, of Glasgow; and to the researches of Ferrier Hughlings, Jackson and others are familiar to every reader of medical journals. They constitute some of the most brilliant achievements of our art and form a most valuable contribution to rational medicine. Here the cause of the "encephalic discharge" is an irritant operating in the immediate neighborhood of, or within the motor area itself.

These examples of "central" epilepsy (which usually present symptoms that serve to distinguish them from the ordinary "idiopathic" variety), and their successful treatment belong to quite modern surgery. However, in several recent works on diseases of the brain, methods of localizing and of surgically treating cerebral neoplasms are considered at length. (3)

Last of all, inasmuch as that mental force which manifests itself through unknown molecular changes in certain parts of the cerebrum, also directly influences the sensori-motor areas, it is not to be wondered at that psychical causes, such as fright, excitement and anxiety, cause or precipitate such a large proportion of the attacks of this disease.

If, then, mental disturbances are capable of producing epilepsy, one is in a position to understand how treatment of an active kind, particularly of that active kind known to the laity as "the use of the knife," might so impress itself upon the patient's mind as to bring about a cure.

In discussing such questions, a broad distinction should be made between *relief* and *cure.* The cure of epilepsy (meaning always the so-called idiopathic variety, and excluding Jacksonian and "hystero" epilepsy, as well as "epileptiform" convulsions and post-paralytic epilepsy), should not be confounded with *temporary freedom* from the attacks.

In considering at length the subject of treatment, it is the custom to discuss that endless and extremely unsatisfactory question "is epilepsy *ever* cured?" What is commonly meant by the question, is this: Is the neurosis which underlies the cerebral discharges ever suppressed? instead of, "is the exciting cause or causes of the attacks ever removed?" To the first, one might reply with a very doubtful and hesitating affirmative. To the latter query, the answer is decidedly, "yes." Clinically and practically, however, a cure means that a *reasonable* time (which will vary with the case) must have elapsed since the patient has had a recurrence of the fits. This would in all cases be at least many months.

Still more difficult is it often to decide whether a given remedy *relieves* epileptic attacks, for, as is well known, these vary greatly in the same individual, as to frequency and severity, both when no treatment has been followed as well as when he is under treatment.

That the *aura* can be cut short and the attack which it heralds prevented by mechanical means is undoubted, but to show what confidence has been and for

1. "Currents and Counter-currents in Medicine," p. 25.
2. "Epilepsy or other Chronic Convulsive Diseases."—W. R. Gowers, p. 171.
3. For Example, see Chaps, x. and xi. of Byron Bramwell's "Intra-cranial Tumors," 1889.

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that matter is still placed in abortive remedies of might be styled the "transcendental" kind the following description of a procedure, popular in England for over half a century, might be recorded. It is resurrected from its resting-place within the leaves of an old copy of the *London Standard*:—A young girl fell down in the public streets of Paris in a strong epileptic fit. A crowd immediately collected around her, but for some moments nobody could think of any means of assistance. A *sergeant de ville* coming up, asked a bystander to lend him a black silk neck-cloth. With this he covered the girl's face and in the course of a few seconds she began to recover; the convulsions ceased; consciousness returned; she got up and walked home, having first thanked the officer for his kindness. A medical man, who happened to be present toward the termination of the scene, complimented the sergeant and said to him, "You have taught me a new mode of treatment."

Quite different, however, is it with those epileptic seizures which are the result of demonstrable peripheral causes—causes generally recognized both by the patient and his physician. These are capable of lasting cure by the removal of the irritant. Examples of such happy results are numerous, and have long been familiar to the profession.

A classical instance is that which occurred in the clinic of the celebrated French surgeon, Baron Larrey. It is to be found in *La Lancette Francaise*, No. 81, 1836:

Case 1. Removal of necrosed bone. An old soldier had been wounded at the battle of Marengo, thirty-three years before, by a fragment of shell. The missile had struck him in the forehead and after a long convalescence he recovered, but there remained a discharge from a small fistulous opening above the brow. The patient soon became an epileptic, had daily attacks of convulsions, and when Larrey saw him more than thirty years afterwards, he was reduced to a mental and physical wreck. The great surgeon carefully examined the wound; probed it and detected with the sound a piece of dead bone. Upon the removal of the latter with a polypus forceps the wound healed, the epileptic attacks ceased and the condition of the patient forthwith improved in every respect.

Exsection of superficial scars. Cures brought about in this way are numerous enough. If the cases recorded in nineteenth century literature were divided into two classes, the first class would include those in which to an unprejudiced mind there certainly was some definite connection between the cicatrix and the attack. Either the epileptic aura began by peculiar sensations in the scar itself, or it was a source of annoyance to the patient, justifying the idea that it contained imprisoned nerve fibers, which were acting as a genuine peripheral irritant. In the second category might be placed those scars the existence of which the patient and his friends had forgotten until they had their attention directed to them by the surgeon. Notwithstanding the cures that have resulted from the removal of such scars, one has a right, in view of the mysterious way in which other surgical methods (to be described later on) have produced cures, to be sceptical about the causal relation assumed to exist between the scar and the epilepsy. One example will suffice:

Case 2. (4) A boy, aged 8, suffered from severe, frequent and typical epileptic seizures. He had an aura which began by twitching of the muscles of the right side of the face. It then spread to the throat, and finally involved the whole body. On the right parietal bone there was a large, tender scar (the result of a fall), and it had been noticed by the parents that shortly after the wound healed, the epileptic attacks began. The cicatrix was excised, the fits disappeared and two years afterward he was mentally and physically healthy.

Removal of splinter. An interesting case well illustrating a cure of epilepsy by the removal of a peripheral irritant is detailed by Franz Rheins. (5)

Case 3. A perfectly healthy locksmith received a wound in the hand from a splinter of cast-steel, a portion of which lodged in the back of his left hand, about the head of the fourth metacarpal bone. It was not removed and the wound healed completely. Four months later the patient had an epileptic attack, which was repeated during the night. Rheins at once cut down upon the offending foreign body and removed it. The shell splinter was one ctr. long, and one-half mm. wide. A year and a half after the operation the patient had had no return of the attacks.

Case 4. Foreign body in meatus auditorius. Schurig (6) has published the following instructive story: An 11-year-old boy of pale aspect and stupid appearance, was brought to him complaining of his ear. He heard in his right ear very badly (watch on contact only), and on examining it a very large and hard plug was found to fill the meatus. It seems that eighteen months before the child had fallen out of a "kinderwagen," and was dragged along the graveled street. Except a little scratching of the face and filling the ear with dirt he seemed none the worse for the accident. Two months after he began to have epileptic fits, which increased in number and severity during the next three or four months. Since then they were less frequent. The syringing of the meatus and the removal of the plug produced a slight epileptic seizure. In the center of a hard mass of ear-wax a small, sharp-edged stone was found. Patient had had no return of fits ten months afterward.

Case 5. (7) *Resection of diseased nerve.* A servant-girl, aged 31, suffered for a year from a chronic syphilitic ulcer on the outer aspect of the left leg. It had been treated in a Hamburgh hospital and had healed. It however broke out again, and while under von Thaden had reached large dimensions. During this time she became epileptic and had severe and frequent seizures. It was noticed that in the wound lay the superficial peroneal nerve. This was extremely sensitive. Patient also complained of a dull feeling in the back of her great toe. She was chloroformed and six ctr. of the nerve resected. It was found to be the seat of a chronic inflammation and to be surrounded by indurated connected tissue. The neurillemma was also affected by the inflammation. Six months after the operation patient was entirely free from convulsions.

And so on, practically *ad infinitum*. Before leaving this subject, however, reference should be made to a

4. Dr. Klaatsch in *Weiner Med. Wochenschrift*, 1 and 2, 1857.
5. *Alg. Med. Central-Zeitung*, xlvii., 23, 1878.
6. *Jahresbericht d. Ges. fur Natur und Heilkunde Zu Dresden*, p. 69, 1877.
7. Von Thaden. *Deustch. Ztsch. f. Chir.*, p. 520, 1875.

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paper by Dr. Archibald Church,(8) of this city, in which (among other interesting matters of the kind) attention is drawn to a collection by Dr. A. P. Brubaker,(9) of Philadelphia, of sixteen cases of epilepsy permanently cured by the extraction of diseased and irritating teeth.

Ever since medicine ceased to be a pure empiricism we have had a large number of surgical proceedings suggested for the cure of epilepsy. These were usually based upon some theory which concerned the causation of the disease: they were more or less faithfully tried; they had their advocates and opponents, and all that now remains of them is a mass of literature, a few extracts from which may be both instructive and entertaining.

Almost every one of these surgical remedies, it must be noticed, could claim its list of cures and a fairly plausible working hypothesis to explain how these cures were brought about. One of the most ancient of these, which has its advocates even to this day, is the use of *Setons and Issues*. Gowers (10) thinks they often do good, but their *modus operandi* is unknown unless one explains it by the use of that *very indefinite term*, "*counter-irritation.*" Many cases of cure by this means are, however, to hand. For example Dr. T. J. Griffith's (11) furnishes several of these. He introduced a large seton (15 or 20 strands of silk or flax thread), to the back of the neck, and allows it to remain for months, removing it only when there is too much local irritation. Of five cases so treated (tonics being the only other treatment,) four were cured or greatly benefited. The disturbance of the mental facilities, which is a common attendant in such cases, rapidly improves after the insertion of the seton. The cure in the following case was undoubtedly due to the open wound and not to the electrical phenomena sought to be induced. The patient was under the care of Dr. Usher Parsons. (12)

Case 6. Michael H., age 25, a stout man, never had an attack of epilepsy until two years before treatment. From that time the fits became more frequent until he had them daily. They began with an *aura*, a creeping sensation along the left arm from the fingers to the shoulder. He was sometimes able to prevent attacks by pressing on the nerves of the arm with his right hand. Tried a great many remedies, surgical and medical, but in vain. Parsons applied an apparatus to patient's neck, which was designed to draw off "an excessive quantity of electric matter from the brain," through a blister in the back of the neck. A silver plate was placed over the latter, over that a wet sponge, and these were connected by a wire with a second blister on the knee. The raw surface on the knee was covered by a zinc plate, also attached to a wet sponge. Both the sores and plates were dressed daily.

Not a single attack of epilepsy occurred for two years after the use of this ingenious mechanism.

Blisters and the Cautery.—The use of the actual cautery to the nape of the neck and spine is recommended by W. A. Hammond and McLane Hamilton, but Brown-Séquard holds that *cures* may be also brought about by circular blistering or cauterization with a red-hot iron of a limb or even a toe or finger—just as a ligature about a limb may abort an epileptic attack preceded by an *aura* beginning in the limb aforesaid.

A case in which the patient was cured by the application of the cautery to the larynx is reported by H. Green.(13) Another by Recamier (14) is as follows: A tailor, aged 32, was admitted to the Hotel Dieu (Paris) on account of epilepsy. Had a one-sided *aura* and numbness in his left foot. Was variously treated without effect, but finally blisters were applied not only to the affected foot but to those parts affected by the warning *aura*. He left the Hospital, after having had several dozens of blisters applied, much better, and for three months, as long as he was kept under observation, he was quite free from the attacks.

Burns. Whether it is the shock to the system, the counter-irritation produced by the suppurating surface or a combination of both, it is difficult to say, but it is well known that cures of epilepsy have been brought about by burns. An instance of this is recorded by R. Beveridge. (15)

Case 7. An epileptic fell into the fire and received a deep burn of the face. Before the wound healed portions of the nasal, ethmoid and frontal bones came away. After a tedious convalescence the fits did not return. Sproule,(16) Bouygues,(17) Reese (M.), (18) Pearson, (19) Langewicz (20) and many others have published similar cases.

Amputations. Unless it be the result of a shock to to the cerebral centers or the outcome of a lasting mental impression, it is difficult to see how amputation of limbs that have no discoverable connection with the disease, could cure epilepsy, and yet there is a number of recorded cases. Among the earliest of these are two by Aubanel. (21)

Case 8. B., æt. 40, a member of a family which never suffered from epilepsy had, while serving in the Spanish war and without apparent cause, became an epileptic. Typical attacks came on every two or three weeks, and finally became so frequent that he was unable to attend to his duty. After several years' of misery he fell into an open fire one day and was dreadfully burned—so badly indeed that he was obliged to have his left arm amputated near the shoulder. Since the day of the operation he had but one slight fit. Had been free of them for a year, and at the date of the report had improved in all respects.

Aubanel's second instance is the following:

Case 9. Mmle. Fleury, of healthy parents and aged 50, became at the time of her first menstruation and without apparent cause, the subject of fits. At first they came on every five or six days, but at last they became so frequent that she had them very often and daily. The seizures were typically epileptic, and set

8. Peripheral Irritation in Nervous Diseases. *Peoria Medical Monthly*, April, 1890.

9. *Journal of Nervous and Mental Diseases.* Dr. Brubaker in answer to a letter of inquiry, has also kindly drawn my attention to his valuable contribution to the *American System of Dentistry* on this subject where many cases of reflex neuroses of dental origin are recorded.

10. Epilepsy and other Convulsive Diseases, p. 235.

11. Naphey's Medical Therapeutics, p. 53.

12. *New England Medical Journal*, vol. xv., 355, 1826.

13. *Medical Gazette*, iv., p. 98, 1853.

14. *Bulletin de Therapic*, Janv., 1844.

15. *Medical Times and Gazette*, 1868, vol. i., page 390.

16. London *Medical Times*, 1844, page 152.

17. *Journal de Medicine et Chir. de Thoulouse*, 1852, p. 44.

18. Phil. *Med. and Surg. Reporter*, 1869, 239.

19. *Ibid*, 1869, 145.

20. Oester. *Med. Wochenschrift*, Wien, 1846.

21. *Gazette Medicale de Paris*, M. 43, 1839.

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in without an aura. She remained in this wretched state until her 25th year, when she fell into the fire and badly burned her right hand. This accident had little or no effect upon the epileptic attacks. The wound never completely cicatrized, and there continued to be a watery discharge from it. She injured the hand again, the scar burst open, cellulitis set in and the limb became so affected that an amputation was done. Previous to the operation her mental condition was pitiable; she was barely able to look after herself and could hardly speak. The operation seemed to change all this. The wound healed nicely, the fits did not return, and her general health as well as her intellectual powers, gradually returned.

Many more such cases are on record. Cures have followed in this way amputation of the lower third of right forearm and hand (22), leg (23), left index finger, (24) etc.

Phlebotomy. Of course this remedy (?) was well tried in the days of our grandfathers. It was always easy to discover a "congestion of the head" in the "falling sickness." Yet, whether it was the bloodletting, the mental impression, counter irritation or what not, apparent cures of epilepsy did follow repeated venesections, in the old days, when it was fashionable to bleed a man for almost every disease. Any one who is interested, may find details of three cases so cured, in an article by the French surgeon, Colson. (25)

Ligature of the carotids. This measure was at one time recognized as a legitimate and potent means of curing epilepsy.

It was undertaken with a view of lessening the blood-flow to the "irritable" nervous centres. Unjustifiable as we now believe it to be, it yet furnishes us with a fair array of cures, many of them performed in this country, *e. g.*, by Valentine Mott,(26) and other well known surgeons.

Case 10.(27) Under the care of the British surgeon, Preston, a pensioner, aged 25, of a robust constitution, had suffered for five years from severe epileptic attacks which recurred about every two weeks, often without any assignable cause. Preston thought that a cerebral congestion might lie at the bottom of the trouble, and on the 4th of Feb., 1831, one of patient's common carotids was tied, after great loss of blood. The ligature fell off on the 5th of March, and two years after he had not had a single attack of epilepsy.

Two cases are reported by Dr. C. Angell,(28) of Pittsburg, Ind. The first patient had fits for three or four years. These increased rapidly in severity and frequency until on the day before the operation, he had 15 to 20 fits in the forenoon alone. The right common carotid was ligated. The operation was successful and the patient never had another attack. Unfortunately, however, he died on the seventh day. Dr. Angell was more fortunate in his next attempt.

Case 11. A man, aged 40, had seizures for seven years. He had been under treatment by a great number of physicians, regular and irregular, without benefit. The attacks later on recurred nearly every day, so that patient had not been able to work for nearly three years, and his mind was almost destroyed by the disease. Three months after the operation (from which he recovered perfectly) he had had four fits only; commenced to attend to his long neglected business, and felt much better than he had done for three years. His family and those who are acquainted with him all agree that they can see a marked change in him.

Tracheotomy. A fierce controversy raged over the utility of this proposed cure for epilepsy, before it was generally abandoned. The celebrated Marshall Hall originated the idea and wrote extensively in its favor.(29) It was extensively practiced both here and in England, and in spite of its irrational character, many cures and examples of relief are recorded. It was pointed out by Hall and others, that many cases of epilepsy are of laryngeal origin, (*epilepsia laryngea*) or at any rate the attack takes the form of laryngismus, (or spasm of the glottis) producing embarrassment of breathing, congestion of the brain, and even danger to life from suffocation. Of course, it was obvious that in such cases if the supply of air to the lungs could be insured, the chief source of the trouble would be removed! The tracheal tube was worn constantly, or at least until a cure had been effected.

Instances of cure are reported by Albers, (30) Neill, (31) and many others. In Albers' case the tube was worn for 13 months, and the patient, a previously confirmed epileptic, never had a single seizure.

Goldhorn,(32) after carefully considering the evidence adduced on both sides, makes the following comments which one might with profit apply to other treatments in medicine and surgery: "Before this measure," says he, "can be considered as a permanent addition to the practical treatment of epilepsy, it must be shown 1st, to be correct in theory; 2nd, that it is not dangerous to life, and 3rd, that the attacks do not return after the operation has been performed."

Ligature of the vertebral artery.—This surgical measure, largely employed here and in England, was in some sense the legitimate successor of the more dangerous ligature of the carotid. A too great supply of blood to the brain was in some cases supposed to be the cause of the attacks. This was to be remedied by occlusion of the verbebral artery. Wm. Alexander of Liverpool was the best known, if not the first advocate of the measure, and accounts of his cases may be read in the *London Medical Times and Gazette* for 1881. Another account (33) gives a resumé of 21 patients so treated. They were workhouse people and the cases were marked and severe. *Three were quite well a year after the operation; nine others were so much improved and were so free from fits that they might be put down as cured,* and eight were said to be so improved that if they got no better the operation would have been justified. In a paper (34) on the subject by Dr. J. Lucius Gray, of Chicago, an account is given of seven such operations per-

22. W. Atlee. Philadelphia *Med. Times*, 1870, p. 224.
23. *Gazette des Hopitaux*, Paris, xxiv., p. 95, 1851. Reported by Cazenave.
24. Lallemand. *Annales Cliniques de Montpelier*, ii. 284, 1854.
25. *Bulletin de la Societe de Medicine de Gand. Tome* 1. p. 19. 1835.
26. *New York Med. Gazette*, p. 120, 1850, See also a full report of Cases in the *N. Y. Journal of Medicine*, 1852, and 1857, p. 22.
27. *Schmidt's Jahrbucher der ges. Med. Bd.* xx. S. 167.
28. *Northwestern Med. and Surg. Journal.* Oct. 1857.
29. *London Lancet*, May 10th and 17th, 1852. The reader wil find full directions as to when and how to perform this—so far as epilepsy is concerned—now forgotten remedy in the *Lancet* for October, 1854.
30. *Archiv. fur phys. Heilkunde*, 1852.
31. Boston Med. and Surg. Journal, 1852–3. vol. 47, p. 29.
32. In a critical review of the subject contributed to Schmidt's Jahrbuch, Bd. 85, p. 173.
33. *Brain*, for July, 1882.
34. *Neurological Review*, July, 1886.

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formed in this city by E. Andrews, Brower, Fenger and others, most of which were followed by relief.

This operation has lately been performed by von Baracz (35) with apparent success, but as none of the four patients had been under observation longer than four months, no conclusions can be drawn as to the permanency of the relief.

Hun, (36) speaking of this article, says: "This is the old, old story of operative procedures, undertaken in the wildest spirit of groping empiricism, to cure epilepsy without first becoming acquainted with the natural course of the disease."

Trephining.—This is a very old surgical treatment of epilepsy. I do not refer to those rational operations for the raising of depressed bone, the opening of cerebral abscesses, the removal of tumors or for providing an exit for intracranial fluids—referred to in the early part of this paper—but rather to those cases where underneath the button of bone or in the bone itself no pathological changes could be discovered. It is true that in most of such instances (where a cure was brought about) a history of traumatism was made out, but it seems to me that here there is a fallacy to guard against, because the great majority of people have at some time or other in their lives received injuries to the head (from falls and other causes) quite as severe as those ascribed to some of the patients operated on in the histories given, and yet epilepsy is a fairly uncommon disease. There were no pathological changes, so far as could be made out, in some of even M. G. Echeverra's (37) well-known list of traumatic cases treated by trephining. A case by Saxtorph (38) was certainly of this description, yet the patient was cured.

Dr. Mason Warren, (39) of Boston, trephined in two cases of *idiopathic* epilepsy. He reports one case as cured and another as relieved. Also Burnett and Gould (40) one. Probably the case of Leo's (41) mentioned by McLane Hamilton is another, and so on.

"Counter-Irritation" will again have to be evoked to explain some of these cures, and in some other instances the psychical influence of an "operation" is not to be lost sight of. The author just quoted says, very justly I think, that operators say a good deal about the procedure itself and recovery from it to the exclusion of exact descriptions of the pathological conditions present. What one would like to know is how the surgeon justified his treatment—what relation, in other words, he supposes to exist in the cases before him between the trephining and the disease.

Case 12. Dr. Spinelli gives the following history (42) of a boy, age 15, who had been epileptic almost since his birth. The attacks were infrequent—about five times a year. The doctor could think of no cause except that at his birth (the labor being prolonged and severe) he had received a contusion(!) on one of the parietal bones. A year before consulting Spinelli the boy received a blow from a stone which fractured the skull. It was decided to use the trephine at the junction of the parietal and occipital bones. An attempt was made to raise what looked like depressed bone, but in vain. The wound healed, and since then there has been no return of the disease. The author ascribes the cure to the enlarged space given by the operation to the growing brain.

When one remembers the reflex relations of the reproductive system it is not to be wondered at that interference with the organs of that system has been common enough in the attempt to find a satisfactory surgical cure for epilepsy. When the attacks are plainly connected with diseased ovaries, testes, etc., the duty of the surgeon is plain enough, but, as in the cases about to be referred to, it is difficult to imagine how the removal of a *normal* organ can bring about a cure of the disease. Yet that such has been the case there is an abundant evidence.

Circumcision. Congenital phimosis had been noticed in eleven out of twenty-five consecutive cases (43) admitted into the London Infirmary for epilepsy and paralysis. Collections of sebum underneath the prepuce may lead is balanitis and herpes. The irritation thus set up causes, in adolescents, sexual excitement, masturbation and reflex neuroses. W. Althaus thinks that if this does not actually cause epilepsy it may predispose to it, and if circumcision does not cure the disease it often relieves it and is a rational adjunct to other treatment. That some cures have followed circumcision, I think, has been proved. A good article on this subject is Sayre's* (L. A.) "Circumcision versus Epilepsy." (44) Gowers (45) thinks it should be adopted in all cases where there is reason to associate the disease with masturbation.

Castration has been performed for substantially the same reasons that circumcision is urged, and although condemned by most text books, (46) it has its advocates and its list of cures. Rooker, (47) Ogle, (48) Bacon, (49) are among the more modern defenders of the practice.

Battey's Operation. The operation of "normal" ovariotomy has been performed extensively here and in England, but it is not generally known that one of its earliest advocates (50) argued, that if justifiable at all, its use should be restricted to the treatment of epilepsy. Battey reported among his earliest cases, one in which the operation was performed for the cure of that disease. Among three of Lawson Tait's (51) cases of "spaying," were three done for "menstrual epilepsy." How the excision of normal, or nearly normal ovaries, can cure idiopathic epilepsy, it is difficult to see, unless, the mental impression made upon the patient be the cause of the cure.

Removal of the clitoris. It was for the advocacy and practice of this operation for the relief of functional nervous diseases, that Mr. Baker Brown (52) got himself into trouble twenty years ago. His idea was, that

35. *Wien. Med. Wochenschrift*, Feb., 1889.
36. *Annual of the Univ. Med. Sciences*, Vol. 2, 1890.
37. *Les Archives General de Medicine*, Dec., 1878.
38. *Journal de Medicine et Chir. Practique*, Paris, p. 163, 1882.
39. Surgical Observations, with cases, 1867.
40. *British Med. Journal*, 1888.
41. *Pepper's System of Medicine*, p. 502, vol. 5.
42. Translated into German by Urban from the Genoese journal *Il Filiatre-Sebezio* for April, 1845.
43. London *Lancet*, Feb. 16, 1867. Nothing is said about the proportion of congenital phimosis in healthy people.
44. *Medical Record* (New York), 1870, p. 233.
45. *Loco. cit.* p. 236.
46. See, for example, Bristowe's Practice of Medicine, p. 1004, Robert's Practice, p. 933, etc.
47. Various numbers of *Cincinnati Lancet* and Obs., 1861, '62 and '68.
48. *London Lancet*, 1859. i., 156,
49. Journal of Mental Science, Oct., 1880.
50. Emmett (?).
51. Manual of Gynecology. Hart & Barbour. ii., 203.
52. Vide his small book, "Insanity, Epilepsy and Hysteria, in Females."

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many cases of epilepsy (for example) in females, were the result of irritation (sometimes connected with, sometimes unconnected with self-abuse) residing in the superficial pudendal nerves. To him, the removal of the cause appeared to be the correct thing, and he began to excise the supposed offenders. However it may have produced its effects, there is evidence to prove that cases of recovery from epilepsy did occur *after* clitoridectomy. Reynolds (53) thinks that an operation of severity equal to that of the removal of the clitoris, (or circumcision) might prove equally serviceable in some cases of epilepsy *if performed on the back of the neck, the mouth or the toes.* He is of the opinion that it is mainly through the strong impression made upon the mind, or a violent change in the body, that the operation mentioned, as well as tracheotomy, etc., produce their effects.

Nerve stretching. That some ill-defined alterations in the nervous elements, both peripheral and central, might be productive of remedial results, is the reason given for nerve stretching in epilepsy. There are a few instances recorded where the offending (or suspected) nerve has been stretched, with good results in idiopathic epilepsy. Prof. von Nussbaum (54) publishes a case of cure.

Case 13. A man, suffering for many years from frequent attacks of epilepsy, presented himself for treatment. He had double *pes equinovarus.* Both tibial and peroneal nerves were laid bare at the popliteal space for 7 ctr. of their course, and stretched with the forefinger. The fits ceased, and for six months after the operation—while he was kept under observation—he has not had a single attack of epilepsy.

It is natural and proper that when an operator succeeds in curing a case of epilepsy and the procedure is a new one, that he should put forward some hypothesis to account for the *modus operandi* of the surgical treatment which resulted so favorably. But the absence of relationship in our present state of knowledge between remedy and cure, is in many cases so evident that the author wisely, it seems to me, either attempts no explanation at all, or adds his history to the accumulated list of "spontaneous" cures. No room can be given here for discussing even the most interesting of these. References to many of them will be found in the "Index Catalogue of the Surgeon General's Library," under a special heading. A good example is, however, given by West, (55) which I am tempted to copy in full. The author does not assume that the abscess mentioned had any connection with the interior of the skull:

Case 14. Bursting of abscess. "A boy, aged 10, suffered from occasional attacks of *petit mal* in February. In the following August the attacks became regular epileptic seizures which increased in severity and frequency, and in the succeeding March returned several times a day, and were accompanied by marked impairment of his mental powers and by an unsteady and tottering gait.

After two months' trial of various remedies and the insertion of a seton in the back of his neck, he left the hospital worse than on his admission. On June 13 he fell in a fit and struck his occiput a violent blow. A large abscess formed here which burst of its own accord, continued discharging for a few days and then healed up. It is just two years since this happened, and from that time to the present there has been no return of fits; the boy has recovered his power of walking and has all the cheerfulness and intelligence that befits his years."

Tenotomy of the ocular muscles. This is the latest surgical treatment which has been proposed for idiopathic epilepsy, and its author, Dr. George T. Stevens, of New York, as long ago as 1881, in a memoir (which was awarded high honor by *l' Academie Royale de Medicine de Belgique*), quotes numerous cases of epilepsy cured by tenotomy of ocular muscles for the relief of "insufficiencies," or "dynamic squint." Since this monograph was written, Dr. Stevens has made further claims for tenotomy. That the irritation, headache, dim vision, etc., caused by refractive errors and anomalies of accommodation have issued in epilepsy and other functional nervous diseases is now undisputed (56), but Dr. Stevens and his adherents claim to have proved that even after the patient has had prescribed for him the necessary spectacles so that there is no "eye-strain," so far as the visual acuity and ciliary muscles are concerned; even then if there exists a want of balance among the external ocular muscles, epilepsy may still be produced or perpetuated. This muscular "eye-strain" is a *common* cause of functional nervous diseases, says Dr. Stevens. Nor is it necessary, it seems, that the patient should be conscious of this want of balance (or heterophoria as Dr. Stevens appropriately calls it), in the working of his eye-muscles. It must be searched for and if found such treatment—especially tenotomy (graduated or partial) or series of tenotomies—is indicated as will restore the lost equilibrium. Some patients may require the operation fifteen or twenty times. Although a committee appointed by the Neurological Society in New York did not, after a long investigation of these claims of Dr. Stevens, consider that the method afforded sufficient relief to patients to warrant its recommendation by the society, yet we may consider it as still *sub judice* in view of the many well-known ophthalmologists and neurologists who have ranged themselves on Dr. Stevens' side in the controversy now going on. Numerous cases of cures more or less complete have been published. The following one from Stevens' (57) monograph will serve as a sample:

Case 15. Mr. H. T., aged 37, consulted June 3, 1880, Dr. C. G. Clark, of Troy, N. Y. He had been an epileptic five years; has had seizures from four to six times a day. In other respects is in very poor health, and looks dull and lethargic.

He has used bromides freely up to the present time. He was found to have hyperopia of $\frac{1}{30}$ for one eye and $\frac{1}{24}$ for the other, with insufficiency of the externi. July 10, 1880, tenotomy of the internus of one eye was made, followed a few weeks later by similar operation on the other eye. All medicines were discontinued from the first. On the day preceding the first operation he had five severe epileptic fits, and on the morning of the operation several more. From the date of the first operation, however, the epileptic attacks ceased, and not a single return of the malady had occurred seven years after the operation. His

53. Practice of Medicine. Vol. 1. p. 782.
54. *Die chir. Klinik Zu Munchen im Jahre*, 1875.
55. Diseases of Children, American Edition, p. 181.
56. This is admitted by Roosa, an opponent of Stevens' method *vide e. g.* "Determination of Need for Glasses," page 50.
57. Functional Nervous Affections, p. 118.

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health improved in all respects. It would, in this case, be satisfactory to know whether the prescribing of proper glasses had first been tried and whether after such prescription the patient had any symptoms of eye-strain. Whatever may be the outcome of a general trial of Stevens' methods, he certainly deserves the credit of having introduced a needed nomenclature for designating the insufficiencies of ocular muscles—"latent" or "dynamic" squint as it was once called. These terms (vide supplement of Dr. Stevens' monograph) have, I think, "come to stay" in ophthalmological literature. We owe him a debt of gratitude, also, for his *phorometer*, by means of which the various forms of heterophoria can be readily demonstrated and their amount accurately measured. On the other hand, I prophesy that in time very little will be heard of "graduated tenotomy" as a cure for epilepsy, because I think its place is in the same category with tracheotomy, vertebral ligation, circumcision and other surgical cures, for each and all of which so much was claimed in times gone by. My reasons for so thinking are based upon these conclusions:

1. The majority of otherwise healthy people have a want of balance in one or other set of their ocular muscles. (58)

2. Oliver (59) (Phil. *Medical Times*, 1887) made a critical examination of the eyes of 50 adults male epileptics—nearly all Americans. Extra-ocular movements were intact in all cases except weakness of the interni—just about what would be found in any average 50 Americans who never had epilepsy.

3. When this want of balance is present (and refractive errors are corrected) the very great majority of persons in whom it exists are unconscious of its presence; it does not produce any trouble whatever; it is not a genuine peripheral irritant. These propositions prove, it seems to me, that there is not any necessary or, if any, a very rare and doubtful connection between heterophoria and epilepsy. At any rate the unprejudiced observer could hardly accept their relation as that of cause and effect in even a small minority of the cases where both occur—certainly not as Dr. Stevens would have us believe—in the majority of such instances.

Now, as to the effects of treatment:

4. In a minority only of those cases cured by operation was absolute *orthophoria* (or equilibrium of the ocular muscles) secured. The majority of patients, cured and uncured, remained with more or less of the trouble sought to be removed by graduated tenotomies.

5. Some of those *uncured* were brought into a condition of orthophoria or very near it.

6. In view of the preceding study of surgical cures in epilepsy it seems justifiable to suppose that the hope excited in the epileptic's breast by the promise of a cure—a cure by means of a new and mysterious remedy—and the lasting mental impression produced by the knowledge that the cure involves an operation perhaps often repeated—that these factors enter as largely into the result obtained as the relief given to a heterophoria not specially recognized by the patient. It is probable that the effect upon the mind is the potent element in many cases of cure wrought by surgical interference. *Among these it seems right to place graduated tenotomies for such cases of heterophoria as do not act as a sensible irritant to the patient.*

58. Roosa. New York *Medical Journal*, April 19, 1890.
59. Annual Univ. Med. Sciences for 1888, vol. i., p. 101.

Note on the Conundrum Why We are Right-Handed.

By C. H. Hughes, St. Louis.
Professor of Psychiatry and Neurology, Marion-Sims College of Medicine.

It is astonishing how much fruitless discussion this subject has elicited, and yet the explanation appears simple. It may be intimated that this is so to us because we are simple-minded. Yet we believe the true explanation is an anatomical and physiological one, and explains not only our right-handedness, but the preferable use of the right eye in sighting, and these facts explain the preferable writing from left to right, the setting with the right side to the writing desk, etc., in our day at least. It seems more convenient to write thus, etc., though the ancient Jews, who were right-handed, wrote from right to left in their books. Bichat, the great French physiologist, in 1805, in his researches *sur la qie et la mort* attempted an explanation of the fact, which in fact was no explanation, for he attributed the preferable use of the right hand to social custom.

Social custom no doubt has something to do with the perpetuation of the prevailing right-handedness, in lieu of the more useful ambidextrous which is possible to the human race, but how we came to be right-handed originally is the question. Gratiolet's theory of the precocious development of the left hemisphere of the cerebrum, and views of Broca subsequently taken up by Fomir and other physiologists that it is the driving side and the initial of mechanical action is doubtless true, but this only amplifies rather than explains the fact that civilized man is ordinarily right-handed.

Without discussing the many reasons offered by others and attempting to show their incompleteness or fallacy, to our mind this is the true explanation. The first reason is that the mother when she has given birth to her child, usually assumes position, lying on the right side. She does this because it is the most restful position, because her liver, the largest of her viscera after the womb is emptied, lies on the right side. Lying on her right side she naturally takes the babe to her bosom and places it in the most natural and restful position for herself and the infant.

This is resting on her right arm with its left arm confined against her breast. The first effective hand movement to the babe at the breast in this position, is with the right hand. It is thus the habit of right-handedness is initiated and established, and it is thus that the whole right side is formed—even the right eye. As the child grows older and comes to sleep by itself and its liver enlarges, it assumes the position in sleep most restful and natural. It sleeps by preference on the right side, and should it grow up to become a mother it repeats the process of the mother before it, and this is the early post-natal predisposition given to the habit which subsequent convenience, training and custom perpetuate.

One might go into the discussion which has occupied Ogle and others as to whether birds are generally right-legged, *i. e.*, whether they perch by preference on their right leg, or whether only parrots do so; but it would not be to the present inquiry, though the explanation that the weight of the liver causes these birds to perch on the right leg has been made.

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Society Proceedings.

Proceedings of Denver Obstetrical and Gynecological Society.

Stated Meeting, April 25th, '90.

PRESIDENT DR. T. H. HAWKINS IN THE CHAIR.

Discussion of Dr. Shollenberger's Paper on Spontaneous Abortion.

Dr. Shollenberger, in his paper on abortion, spoke of it as of frequent occurrence, and of its serious effect on the future health of the mother. That primarily, it was of more frequent occurrence with multiparæ than with primiparæ. That frequently it occurs in the first few weeks of pregnacy, unknown to the patient. That the accident occurred more frequently between the second and fourth months than any other time. He mentioned the causes of abortion as being exciting and predisposing. Among the causes mentioned being the health of either parent, acute diseases, death of the fœtus, disease of the uterus and placenta, nervous shock and alcoholic excesses. Accidental physical causes were also mentioned. Under the head of symptoms, he stated that there were very few reliable premonitory symptoms, as indications denoting the commencement of abortion were often the first intimation that abortion was threatened. The rational symptoms are pain, hemorrhage and evacuation of the liquor Amnii. The discharges should always be carefully examined, so as to assist in making a clear diagnosis. The positive diagnosis is at times a very difficult one, the physician not being positive that pregnancy really exists. Of course, after dilatation has taken place, especially if the membranes protrude, a correct diagnosis can then be established. If the hemorrhage and pain are excessive, if clots are expelled, and the os dilated, the diagnosis of abortion, should present no difficulties. The prognosis must necessarily always be guarded. It is necessarily always fatal to the fœtus, and we can never be positive what the ultimate result will be to the mother. In the line of treatment, several indications were mentioned, among them being the prophylactic. Correct the habit of aborting and all constitutional taint of either parent. Should all the symptoms of abortion be present, there are two indications, viz., to arrest the accident, and if this be impossible, to cause expulsion of the fœtus, and its appendages, as soon as possible. The patient should be compelled to remain in the recumbent position, and morphia, chloradyne, or other sedative given, either hypodermatically, or by the stomach. In the use of opium, care must be taken on account of its effects on the stomach and bowels, in producing vomiting and constipation. If the accident cannot be prevented, the ovum should be removed as soon as possible. Hemorrhage should be arrested by vaginal tampon of cotton, soaked in glycerine or sweet oil. This will also usually effect dilatation, if not, can use laminaria, or sponge tents. The vaginal tampons should be allowed to remain in situ, about 6 to 10 hours.

The cases which give the most trouble are those in which the fœtus is first expelled and the placenta and membranes remain. In such cases, did not believe in the expectant plan, but uterus should be emptied of its contents at once. If necessary, the patient may be anæsthetized, so that the cavity of the womb can be thoroughly explored. Use curette, if necessary. Should teach women the danger that may follow and keep them in the recumbent position at least as long as at delivery at full term.

Dr. Rothwell: I have been much interested in the reading of the paper by Dr. Shollenberger. The subject is a very important one. The paper has covered the ground so thoroughly that there seems but little to add. However, I have jotted down a few points while listening to it. First, I think that occupation is a frequent cause of abortion. For instance, women in the rural districts of Germany abort more frequently than their sisters in the cities, no doubt due to the fact that the female peasantry of Germany are accustomed to labor in the fields. In this country, city women abort more frequently on account of the debilitating effects of city life. Anæmia is a not infrequent cause of the trouble as is instanced by the frequency of miscarriages in malarial regions where anæmia is common. Uterine affections, especially retroflection or retroversion with adhesion, are responsible for many cases. Excessive coition by maintaining congestion and hyperæsthesia of the genital organs predisposes to abortion. Among the polygamist Mormons of Utah, sexual intercourse during pregnancy is prohibited, and consequently abortion among them are noticeably uncommon. There is not much danger from hæmorrhage where the os is not dilated, but I always tampon when the os is dilated for fear of hæmorrhage. Have seen cases, occurring in the mountains, three or four days after the accident, and after emptying the uterus the cases did well, showing clearly that there is no immediate danger from sepsis. Had but one case die in the mountains; in this case the placenta had been retained in the uterine cavity one month before the woman had any medical attendance. If the cervix is not dilated I sometimes use tents as dilators. After removing the secundines I have been in the habit of giving an antiseptic douche (bichloride of mercury). If the patient has no rise of temperature, the one douche is sufficient. The after treatment is the most important. Keeping the patient quiet and using quinine and ergot daily. In removing the placenta I administer chloroform, introducing the hand into the vagina if necessary, and use my finger, for I find it better than any instrument I have tried.

Young physicians as a rule, I think, are too anxious and do too much.

Dr. Taylor: My experience does not agree with that of Dr. Shollenberger, as to the relative frequency of abortions in multiparæ and primiparæ; or at least I am sure I have seen it more common in women who have never been delivered of a child at or near term, although having had one or more abortions. Of course if a woman is predisposed to abortion, this accident is likely to happen during her first, and still more during succeeding pregnancies. I agree with Dr. Rothwell in his views of coitus as a cause of abortion, and I always warn those who have formed the habit of aborting, or have symptoms of aborting, on this point.

In regard to the diagnosis, the doctor did not mention Hegar's sign, which is perhaps the most valuable sign of pregnancy at an early stage.

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In the treatment of abortion, the division which the doctor makes into cases where there is hope of saving the fœtus and into those where there is not, is very practical and necessary. And right here let me say that we should be very slow to decide that there is no hope of arresting a threatened abortion. In my student days, I was taught that if hæmorrhage co-exist, the case is hopeless, but I have known several cases in which very considerable hæmorrhage and pains co-existed in which by energetic treatment the abortion was prevented. I quite agree that morphia is the most efficient medicine for controlling the pains, but I think it should be pushed more energetically. Instead of an eighth of a grain by the stomach, I should prefer a fourth of a grain hypodermically, and if that does not control the pains within three-quarters of an hour, I would give an eighth of a grain more. In a case where a number of abortions had occurred, notwithstanding great precautions, I lately put the woman upon a course of the double chloride of gold and sodium, and had the satisfaction in due time of delivering her of a child at term.

When the fœtus is cast off leaving the membranes behind we have a dangerous condition, for although they remain in utero until they become spontaneously detached without harm, yet there is danger that poisonous germs may gain entrance to the cavity of the uterus and set up septic processes which may terminate fatally. In such a case ergot should be given to free the uterus from clots and favor the detachment of the membranes, and when indications of sepsis arise the membranes should be at once removed, by the finger if they can be readily reached, though I prefer to use a blunt curette rather than introduce my hand into a vagina which has never been distended by a child's head, if the secundines could not otherwise be reached.

Dr. Lobingier: I am sure I can join the gentlemen in commending the paper. I would mention a few causes in addition to those already given, namely, acute diseases, and especially the exanthematous fevers. Excessive purgation from any cause, may predispose to abortion by exciting uterine contractions from over-straining and excessive peristalsis. High altitude may be cited as another cause predisposing to abortion. It has been observed that women residing in the Alps abort more easily than those in the low lands. Statistics would doubtless show the same to be true on the Rocky Mountain plateau. The phenomenon is probably due to conjestion from over-action of the heart.

Hyperæmia of the pelvic area from a mechanical cause, such as heavy clothing supported from the waist, may be mentioned as a common and pronounced predisposing cause to abortion. The practice of wearing heavy skirts bound tightly about the waist cannot be too freely condemned in pregnant women.

In the treatment, I would not agree with Dr. Taylor in the use of morphia. This might be employed in the start to secure an impression, but I would follow it with powdered opium in the form of rectal suppositories, with two grains to the suppository. Fl. Ex. of Viburnum in half drachm doses is valuable as a later and more permanent sedative.

Antiseptic measures cannot be too strictly enforced. The liability to sepsis either by infection or from decomposing substances is always imminent.

Should it be found impossible to arrest an incipient abortion, I would resort to rapid dilatation and removal of the contents of the uterus. Dilatation may be safely and speedily accomplished by Barnes' bags or by the tampon. In tamponing, I prefer the connected or chain tampon owing to the facility with which it may be withdrawn. Instead of using sweet oil as Dr. Schollenberger has suggested, I would soak the tampon in borated glycerine. The latter acts blandly on the mucous membrane and is aseptic as well as antiseptic, whereas a vegetable oil such as has been mentioned, will decompose immediately and form a nidus for germs.

When dilatation has been accomplished, I would empty the uterus with the finger as suggested by Dr. Rothwell, instead of employing the curette. This may be done with perfect safety to the parts, whereas the curette is not invariably a safe instrument to use

Dr. Pershing: The diagnosis between over-due menstruation and an early abortion may at times be very difficult. The patient may fully believe that she is aborting at the eighth or ninth week, the os may be softened and dilated by a clot, the discharged clots may very closely resemble fragments of decidua, and yet all of these phenomena be due simply to disordered menstruation.

A recent case of this kind made me almost sure that I had an abortion to deal with, yet a careful examination of every napkin used, and the after history, showed conclusively that the patient had not been pregnant. I agree with Dr. Taylor that it is best to postpone active interference in a case of impending abortion until the last possible moment. Even when there has been a good deal of hemorrhage and some pain, opium and rest may cause both to subside and a perfectly healthy child may be delivered at full term.

The use of sponges as a material for the tampon and of tents of any kind ought to be avoided on account of their liability to cause abrasions and septic infections. Only when the os is closed and the uterus must be emptied without further delay are tents advisable, and then as a choice of evils.

An important point made by Goodell is that when the secundines are partially detached the hemorrhage may be very alarming, but that is all the more reason for going ahead boldly and completing the operation, for then the hemorrhage will usually subside.

Dr. Wicks: I am sorry I was absent during the reading of the paper, but, in listening to the discussion, several thoughts have been presented on which I desire to speak.

Excessive sexual intercourse has been mentioned as one of the causes of abortion. Sexual intercourse, I believe, is a very fruitful cause. It causes abortion by producing hyperæmia of the sexual organs and increasing their nervous irritability. Dr. Taylor, on speaking on this point, said that where there seems to be a habit of abortion formed, we should caution the husband and wife against sexual intercourse. I think, as physicians, we should use every opportunity to condemn sexual intercourse during pregnancy. Every safeguard possible should be thrown around the mother and her child. We cannot estimate, as yet, the evil influence that sexual intercourse may have on the mother and child. We know that maternal impressions are in some way transmitted to the growing child, and also that sexual intercourse during pregnancy is very frequently extremely distasteful

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and repugnant to the woman. We do not know to what extent pre-natal influences are at work, and so should try to surround the mother with all the good possible. The old Jewish law prohibits sexual intercourse during pregnancy, and I think it is the right line during pregnancy.

In regard to the etiology of the uterine moles, I believe it is formed by portions of retained placenta of an uncompleted abortion undergoing a change and being partially organized. I would condemn the use of tents for dilating the cervix, because of the abrasions they would cause. The tampon usually is sufficient to soften the cervix. Sometimes a hot sitz-bath of thirty minutes to an hour, and prolonged hot vaginal injections are helpful. In the treatment of inevitable abortion, I have always emptied the uterus as speedily as possible. Where portions of the placenta are retained, I use my finger as a curette to break them down, giving chloroform if necessary, and after washing out the uterine cavity I apply thoroughly tincture of iodine to the cavity. I have never had a bad result of any kind, and the mothers recover promptly. During convalescence, I sometimes use ergot to hasten involution.

Dr. Fleming: As my experience has been rather limited in the treatment of abortion, I cannot offer much to the society this evening. However, in the cases I have met, after the expulsion of the ovum I see that the uterus is thoroughly cleansed of all membranes and parts of placenta, and use all antiseptic precautions.

Dr. Hawkins: Gentlemen, you no doubt consider that it is the duty of the president to preside and not to talk; yet with your kind permission I would like to say a few words concerning the subject under discussion—"Natural or Spontaneous Abortion." In the first place, I do not like the terms "natural or spontaneous abortions." I much prefer to use the terms "criminal or non-criminal abortions," or "intentional or unintentional abortions." Abortion may be brought on by traumatic causes, and yet not be intentional.

Much has been said by the different members about coitus as a cause of abortion, and the fact that the prostitute frequently aborts is cited as proof. It is true that chronic endometritis and syphilis are very common among this class, and every physician who has had any experience in treating this class of patients knows that criminal abortion is the rule with them, and that accidental abortion is rare.

It is claimed to-night by one gentleman, that coitus should not take place during utero-gestation—that the old Jewish law should be lived up to strictly. My practice has been quite extensive among the Hebrews, and I know that abortion occurs not less frequently with this class than the Gentiles. Retroversion even without adhesion is a frequent cause, and I could cite several cases where correcting this displacement in women who aborted regularly, they were enabled to go to full term.

Antiflexion, especially where there is rudimentary development of the cervix, is also a very frequent cause, and I have frequently called attention to placenta prævia as a cause of abortion. In the management of these cases I have followed nearly the same plan of treatment for the past seventeen years, using viburnum compound and tincture of opii deodorized every hour or two until pains are contralled in threatening abortions, and of course the patient is kept absolutely at rest. I have never used morphine.

Where it is evident that abortion must occur, I first ascertain if the cervix is dilated; if it is not and the patient is a primipara, I invariably tampon, not with the view of controlling hæmorrhage, for there is seldom, if any, danger of hæmorrhage in a case of abortion before the cervix is dilated; but the object of the tampon is to excite uterine contraction, softening and dilatation of cervix. If the cervix is dilated and distensible, or if the patient is a multipara, and the cervix is soft as a rule, I proceed at once to empty the uterus, especially if there is much bleeding or the slightest odor to the discharges, invariably observing the strictest antiseptic precautions. I administer an anæsthetic if absolutely necessary. I never use placental forceps or curette, as I have always succeeded with the index finger of my left hand. Have never even found it necessary to insert two fingers into the uterus, and only in two cases have I been compelled to insert the hand into the vagina. Have never used tents or any means for dilating the cervix, excepting the tampon or the finger.

Immediately after emptying the uterus I have invariably mopped out the cavity of the uterus with a solution of equal parts of iodine and carbolic acid. Then wash out the vagina, give my patient ten grs. of quinine, a saline laxative the next day, and in seventeen years I cannot recall a single case that had a temperature above normal, and the patients recovered without a bad symptom.

Dr. Shollenberger has handled the subject well and I have simply endeavored in my remarks to lay special stress on some points of interest, concerning which I entertain very decided and positive opinions.

We all know how frequent it is to hear of or read of deaths from abortion, and yet I am sure, judging from my own experience and the experience of others who have pursued a similar line of treatment to the one which I have so imperfectly described, that the death rate should be very low, except in cases where they have neglected to call in a physician until too late, or in cases of criminal abortion where great violence or injury was done to the uterus.

Dr. Shollenberber: In closing the discussion, I would like to say that in all operations used in removing the placenta I believe in thorough antisepsis. I still believe that multiparæ are more prone to abortion than are primiparæ. We must not take our own experience as the rule, for it is usually too limited, but we must form our opinions from the statistics obtained from the large number of cases reported.

The fœtal heart sound I think is the best sign upon which to base our diagnosis of pregnancy, but fortunately it is not valuable in the earlier months. I do not believe in giving large doses of morphine hypodermically, for it is liable to cause serious vomiting which might in itself produce abortion.

When using tents I always take the precautions to thoroughly make them antiseptic.

The Mississippi Valley Medical Association meets in Louisville, September 10. The profession are cordially invited. An interesting programme is anticipated.

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Allegheny County Medical Society.

SPECIAL MEETING, JUNE 17, 1890.

J. A. LIPPINCOTT, M. D., PRESIDENT PRO TEM., IN THE CHAIR.

Case of Suspected Volvulus.

Dr. Batten reported: On Sunday, June 8, I saw a man who had been suffering for several days with intense abdominal pains. There was sickness at the stomach. I gave him a quarter of a grain of morphia sulphate, and extract of belladonna every hour. That did not control the pain, and Dr. Pollock was called in consultation. We continued with the belladonna and the sulphate of morphia every hour, and a hypodermic injection of morphia every six hours. This quieted him. The morphia and belladonna were continued steadily, and when the pains become unbearable, morphia was injected. He continued in that way, with vomiting until Friday. I omitted to say we injected warm water into the bowels. On Friday afternoon there was a passage of the bowels and we omitted the hypodermic injection and the morphia and belladonna, and gave him Rochelle salts in small doses. Yesterday he had three hours sleep. Last night he slept all night. To-day he is well.

Dr. Buchanan: I would like to know if any tumor could be felt.

Dr. Batten: No, but the abdomen was very hard.

Dr. Lange: I would submit that Dr. Batten has given no evidence of intussusception; it might have been a case of ileus, a case of fecal obstruction, or of typhlitis. Dr. Batten has given no evidence of volvulus.

Dr. Batten: It was an obstruction of the bowels. No hard matter came away after the bowels commenced to move.

Dr. Huselton: I would be disposed to criticise the treatment. I cannot readily understand why he should resort to purgatives in such a case. Of course the opiates would be all right to allay pain and quiet the bowels. It seems to me that purgatives would hardly be proper in such cases.

CASE OF PUERPERAL CONVULSIONS.

Dr. Duff: About one year ago I reported a case of puerperal convulsions to this society. I was called to see a young woman of 20, about two weeks before the time of labor. I found general anasarca as well as urine loaded with albumen, and I treated her, as I indicated in my report, by giving her digitalis. About six days after I was called to see her. She was taken in convulsions, which could only be controlled by chloroform. These we controlled for about twenty-four hours, when they returned. I then dilated and delivered her of a male child. The child lived about a week. The mother made a good recovery and did not have convulsions after delivery. Against my orders, she cohabitated with her husband and became pregnant within three months. Before pregnancy her urine was normal. At four months I examined her and found considerable albumen. I then put her upon nitro-glycerine, one drop doses three times a day, with the result that the albuminuria disappeared. At six months the albumen returned, as well as the dropsical condition. She was again put on nitro-glycerine, and there remained a slight trace of albumen during her whole pregnancy. She was confined last Tuesday morning; I applied the forceps, delivered her, and she has made an excellent recovery. I might follow this case with another almost similar in history, in which nitro-glycerine was used with as good results; but in a third case it did no good. Taking it all in all, however, my experience is that nitro-glycerine is one of the best remedies we can use in these circumstances.

Dr. Connell: Two such cases came under my notice. One showed about ten per cent albumen; this was at the beginning of the seventh month. In about two weeks I was called to see her, in convulsions. Another case was one in which I was called by Dr. Hallock. In this case there was no albumen in the urine. The woman had reached full term and the labor progressed slowly but favorably; being first labor, of course, it was a little tedious. During the second stage she was seized with terrific convulsion; during the time we were delivering her, which we did as quickly as possible, she had three or four convulsions. There was no trace of albumen in her urine.

Dr. Stewart: Albuminuria, uræmia and convulsions during pregnancy, are invariably ascribed to circulation interferences by pressure of the enlarged uterus. But it is worthy of note that abdominal tumors as large as the uterus at term, and occupying the same situation, do not entail these results. How can this be explained? It is to be remembered that pregnancy possesses other means to effect convulsions, namely: through the nervous system. In addition, discrimination is necessary, and all convulsions occurring during pregnancy, labor, and lying-in, are by no means to be ascribed to, and treated as the result of uræmia.

Dr. Green: April 28, last, I was summoned to see a child six years of age, with typhoid fever. The patient remained ill with the characteristic temperature curves during twenty days. During the last six days cerebral symptoms seemed to predominate, and about the time the fever subsided and the temperature became normal, the child seemed to convalesce rapidly, and seemed cheerful. On the twenty-second day, when I called they told me the child had not spoken the past night, and had spoken but once since I made my visit the day before. She continued in this mute condition for six days without uttering an audible note. During this time there did not seem to be any unusual delirium, but about twenty-four hours before she began to speak she manifested considerable delirium of rather a cheerful nature. It was on the seventh day she began again to speak, and within forty-eight hours she talked as usual. I think this case is unusual. The child made a good recovery, and is now apparently as well as before the illness.

Dr. Buchanan: "I have seen a case very similar to Dr. Green's. A child seven years old was attacked by typhoid fever, and passed through a typical course of fever lasting four weeks. The child was then unable to speak. It had no other cerebral symptoms whatever. In all other respects the case was an ordinary one. It returned to speech more gradually than Dr. Green's case, but finally completely recovered. I think it was almost a week from the time it commenced to say individual words until it was able to express its wants."

Dr. Huselton: "I have to report a case of dislocation of the hip joint. The dislocation was that which is commonly known as the dorsal dislocation. The

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case had been seen and manipulated by another surgeon, and in the manipulation, the head of the bone had slipped into the thyroid foramen, an accident which may happen to any one of us, and which is not so readily reduced. On my third effort, I succeeded in dislodging the bone, and it returned to its place with a snap so loud, that I felt certain I had fractured the neck, but was glad to find that I had not. This is the third case of dislocation of the hip I have reduced by manipulation. The first one I had no difficulty with whatever. The second one I also succeeded in reducing without special effort. The patient made a quick recovery in this last case.

Dr. McCann: "This is not an uncommon accident in attempting to reduce a dislocation of the hip joint; in the effort to place the head of the bone in its normal position, unless there be extreme care excrcised, it will be thrown into one of the other dislocations. Some years ago, a man was struck on the back by a railway train, and sustained a dislocation of the hip, as well as other injuries. When he was brought into the hospital, it was not appreciated that he was fatally injured, and an effort was made to reduce the dislocation. The effort most signally failed for a long time; finally, the bone slipped into position just as the man was dying.

A post-mortem showed that not alone the fibro-cartilage around the periphery of the acetabulum, but a bony section at the superior edge was also fractured off. The specimen was not retained. It would have been of value. A few years ago a child of 10 years was subjected to several efforts at reduction of the dislocation by manipulation. The head of the bone could be thrown into the thyroid foramen, and was apparently reduced, but as soon as the extension was removed there was an immediate reproduction of the dislocation, although a deformity did not exist. After two or three surgeons had made a number of efforts to reduce the dislocation by manipulation, the child was put in bed with extension by a splint, and eventually recovered. I am satisfied that this case—although, fortunately for the child, we had no opportunity to verify the opinion, for she lived—was also a case in which the cartilage, and perhaps some bone, had been torn off.

Occasionally, as has been demonstrated by Dr. Murdoch, dislocation which cannot be reduced by the ordinary manipulations will be reduced by a little traction. I remember one in which I was able, by my own unaided effort, catching the foot and pulling powerfully upon the limb, to replace the head of the bone in the socket.

Dr. Pettit: Two cases I saw in the hospital which were reduced by extension. One had been worked with a long time by a half-dozen physicians and attendants, and there was failure to reduce the dislocation. While they were rigging up the rope and pulley arrangement to try, some one grasped the man by the limb, and by no great force, but simply by steady pulling for maybe three-fourths of a minute, the bone slipped into place. Since that time I have seen one other case reduced in the same manner after quite a good deal of manipulation, without success, by extension without a great deal of force, but the force being kept up some minutes steadily.

Dr. Buchanan: I recall a case in which efforts were made to reduce a dislocation of the hip in a railroad man by, I suppose, five or six competent surgeons, and when they were through, the reduction was unaccomplished, and the opinion was expressed that it must be a fracture of the rim of the acetabulum neck, and that it was impossible to reduce it. Dr. LeMoyne requested to be permitted to put on an extension, and by extension and some little manipulation, not the ordinary manipulation, but manipulation during extension, he reduced this hip joint. This man was on the point of being returned to bed with his luxation unreduced when the successful attempt was made.

Dr. Batten: I had a case of dislocation of the hip and could not reduce it. Dr. Emmerling, Dr. Dickson and Dr. Reiter were present. The bone went into place with a snap under Dr. Reiter's manipulation.

Dr. Kœnig: I would like to ask if it might not be possible that the position of the rent in the capsule has much to do with the return of the bone; where the surgeon is not able to return the bone by the method of manipulation, and where the method of extension is readily followed by reduction of the bone, is not the location of the rent a factor in this case?

Dr. McCann: What I wish to say is, that in the cases of extension, the patient being entirely under the influence of an anæsthetic, completely relaxed, the amount of force used was not great. In my own cases I did not exert a very great force, and it slipped in.

Another method consists of etherizing the patient, laying him on his abdomen on a table, and allowing the limb to hang down over the end of the table. The result is that after a certain length of time the muscles of the abdomen relax, and with almost no manipulation the head of the bone is thrown into its proper position.

Dr. Huselton: A farmer sustained a simple dislocation of the shoulder. He was taken into the town of Harmony, where two surgeons tried to reduce the dislocation. They failed, and had the man loaded into a spring wagon and sent to my office, with a note asking me to call in some of my friends and attempt to reduce the dislocation, and in the event of a failure, to send him to the West Penn Hospital. I said I would make an attempt to reduce it myself. I took the patient into my back office, laid him upon the lounge, and standing behind him, I pulled and told him to pull, which he did, and I think the dislocation was reduced in about two minutes. Now these were competent men who failed with this case, and they seemed to have exhausted every effort. Therefore I think we should be very charitable indeed before we condemn a physician for failure to reduce a dislocation.

THREE CASES OF FATAL PERICARDITIS WITH AUTOPSIES IN TWO.

Dr. Lange: I wish to report three fatal cases of pericarditis. The first was a large German previously healthy, with no discoverable hereditary taint except that his mother had died of some lung disease at the age of thirty-two. This man was a cooper by occupation and boasted of his previous excellent health. He presented on examination the usual signs of pericarditis except that of pain. He presented in addition the ordinary signs and symptoms of a slight fever. Pericarditis was suspected in this case, and during the next three weeks under observation it was ascertained to exist. This man died of heart failure

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on the water closet. The autopsy showed the heart to be the so-called hairy heart. There were numerous and strong adhesions between the parietal and visceral layers. Other lesions consisting of organized bands from the visceral to the parietal pericardium of from a quarter to an inch in length, and as strong as the chordæ tendineæ. These must have exerted a potent and pernicious influence upon the contraction and rotation of the organ. Still other bands were free at one extremity which floated in the very limited amount of effusion. This was a tubercular pericarditis and nowhere else throughout the body was tubercle discovered.

The second case occurred in an Italian, aged 35, who had a left-sided, lower-lobed croupous pneumonia accompanied by a pleuritic effusion large enough to require tapping. In the third week, resolution not happening, the pneumonia became purulent, and thus developed the secondary pericarditis. On autopsy the heart was found to be like the first and the effusion to be small. This patient died while sitting on the edge of his bed.

The third case was an Irishman, a very active man, yardmaster at one of the railroads here. He came to my office complaining of shortness of breath and presented the signs, symptoms and phenomena of a mild fever. He had no pain, little headache, little backache, general malaise, anorexia, in short, all the signs and symptoms of a slight fever, a pericardiac friction murmur, and a tumbling heart, but no enlarged area of cardiac dullness. Dyspnœa was his only complaint. He had it two months and it was growing. After two weeks he thought himself so well that we could not restrain him. He would leave his bed and go about his room. One Sunday morning he sent for a barber to shave him. He got up, sat on a chair, took the Sunday paper to look it over, and fell dead. There was no post mortem. From repeated physical examinations I believe the conditions would have been found as in the other cases. In pericarditis of gravity, which cases constitute the small minority, there is one remedy to which we at last arrive. This is digitalis. It is said that digitalis is proper to strengthen the action of the heart. My experience with these cases and others, leads me to think that digitalis has very little effect in increasing the power of the heart in pericarditis.

Another point is, that death from pericarditis, which is usually ascribed to the size of the effusion when it is large, may be due rather to interference with the action of the heart by adhesion. It is my opinion that this latter is frequently, and that large effusions are rarely, the cause of death. Large effusions belong rather to those inflammations of the pericardium which complicate rheumatism and nephritis, and which are not fatal. When the effusion is large, what can we expect from digitalis? The interference in this case is not with contraction—but with the filling—the diastole of the heart; and this being purely a muscular relaxation is uninfluenced by digitalis. The only effect then that we should expect is that which would happen after the administration of digitalis, in for instance, the granular degeneration of typhoid fever, pneumonia, or any disease of gravity and duration; and this, it must be confessed, is little. The effect, indeed, would be less, for even if the systole should be improved by digitalis, the diastole cannot be, and consequently the intra-arterial tension is not increased. On the other hand, if the adhesions constitute the obstacle to efficient contractions, we can understand how an increase of power in systole by digitalis might fracture, tear off, or free the parietal from the visceral pericardium, and thus allow an increased quantity of blood in the arterial system. But I have not observed this to happen, and the administration of digitalis for pericarditis is pregnant with disappointment, and is in striking contrast with its effects in heart dilatation.

Abstracts.

Mummified Fœtus.—Dr. M. W. Lang, of Lake Port, Mich., in *Montreal Medical Journal*, contributes to that monthly the following case: Was called January 30, 1890, to attend a primipara of 24, who was threatened with an abortion. She reckoned herself in the sixth month of pregnancy. Was seized with severe hæmorrhage and sharp pains on above date. Abdomen of normal size, fœtal movements distinct, fœtal heart-sounds 160 per minute, head midway between umbilicus and middle of Poupart's ligament. Vaginal examination revealed a slight flow, os slightly dilated, parts moist and soft. Under the influence of rest and full doses of opium the flow ceased and pains subsided, but at 4 p. m., the pains returned and a livchild was born, which survived but a few minutes. The placenta and membranes were delivered entire by expression. The uterus remaining abnormally large, called for a vaginal examination. This revealed another fœtal head protruding through the os; a finger hooked over the neck brought away the fœtus, cord, placenta and membranes all together. The fœtus was 4½ inches long, flattened antero-posteriorly, well preserved and of a leathery consistence. The cord was 12 inches long, tough, leathery and difficult to break. Placenta brownish, tough, leathery and odorless; membranes shrunken to mere threads, no liquor amnii being present.

Appearances went to show that the fœtus and placenta had remained unattached in the uterine cavity for some time.

There was no specific history; patient somewhat anæmic, but otherwise in good health.

Supernumery Breasts.—Dr. J. Herbert Darey, Granger, Minn., in *Montreal Medical Journal*, was called to attend Mrs. D. in confinement December 2, 1889, it being her sixth child. Labor proceeded regularly and she was soon delivered of a healthy male child. She then exhibited the source of much pain and discomfort during the latter period of pregnancy and during lactation, viz.: the existence of an extra breast in each axilla, which secreted milk quite freely and were very hard to dry up. These breasts, by pressing on the brachial plexus and the axillary vein, caused the arms to swell up. Any attempt at sleeping on the side caused such excruciating pain she could not stand it. During lactation they would secrete very freely, wetting her clothing, thereby causing much discomfort.

On examination, two normal mammæ were disclosed, also in each axilla two mammæ as large as a medium-sized lemon, with a distinct areola, but no nipples. The ducts opened in the areola of course, as the milk flowed out. The hair of the axilla grew over these extra glands, which were freely movable

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under the skin and had the ordinary consistence of the normal breast. There was no connection whatever between the normal breasts and the supernumerary ones.

She used a hot, saturated solution of common salt, applied frequently as a fomentation, and said under this treatment she had dried up the secretion of milk in a few days. A week later she reported the treatment as successful, and said the normal mammæ secreted enough milk for the child.

Unique Case Extra-Uterine Pregnancy.—Dr. C. M. Macquibban, Aberdeen.—*British Medical Journal.* On September 5, 1888, was called to attend Mrs. E. S., aged 43, who was suffering intense pain coming in paroxysms. Pulse 96, temperature 100°. Difficulty in voiding urine, abdomen swollen, especially on right side. Had two miscarriages before the birth of last child, four years previous. Was the mother of twelve children and labors natural.

Os far up; no dilatation nor discharge. No fœtal sound. Breast natural, but a swelling was discovered on the upper and back part of the vagina below the os, soft and yielding to pressure. Supposing it a case of bilious colic, a dose of castor oil, hot fomentations over abdomen, also laudanum to quiet pain.

After an interval of some days the same symptoms re-occurred, with again an interval of comparative relief. Consultation was proposed, and Prof. Ogston was called. A diagnosis of retro-uterine hæmatocele or extra-uterine pregnancy, was made, and she was advised to go to the hospital for operation.

In the morning the bowels were emptied with an enema, and the abdomen opened after strict antiseptic precautions had been taken. A large cyst presented itself which on being punctured proved to be the over-distended bladder. This was surprising, as two and a half pints of urine had been drawn off immediately preceding the operation. The wound was stitched up with catgut and a catheter tied into the bladder after the operation. This led into a bottle of carbolized oil, thus keeping the urine voided, beneath a layer of antiseptic fluid. The tumor behind the uterus was then examined, and found that in Douglas' pouch there was a cyst independent of the fallopian tubes and uterus, and closely adherent to the posterior wall of the uterus. The cyst was punctured per vaginam, and a well-formed fœtus of about four months removed with forceps. The placenta and cord were left in the "false uterus," which was well washed out with salicylic lotion and a large drainage tube inserted. Wood wool pads were placed over the perineum and the abdominal wound was stitched up and dressed with the ordinary Lister's dressing.

The subsequent treatment consisted in dressing the wound every four hours, and irrigating tube and vagina with salicylic lotion; labia rubbed well with iodoform. Diet consisted of a little milk, beef tea, also weak tea; with ice to quench thirst. Temperature first day was 100.6° which increased to 102.2° the second day.

A fresh drainage tube was inserted and the Lister dressing discontinued. At night the temperature fell to 98.2°. The case improved daily with but few complications, and the cord and placenta came away on the third day. The bowels were kept quiet for a fortnight when they were opened by a soap enema, and kept open until they acted naturally. The catheter was removed, but as urine escaped by the abdominal wound it was replaced, and retained some time longer. The wound was dressed twice a day until the improvement justified dressing but once a day. November 6, about five weeks from date of operation, she was allowed to get up for the first time; and on the tenth was dismissed, the wound being nearly healed. The patient was otherwise well.

Loose Body in Knee Joint. Dr. R. B. Nevitt in *Canadian Practition.* O. G., age 24, was admitted to the Toronto General Hospital, with the following history: On the 15th of November, 1888, four months previously, he had twisted his leg by catching his foot in the limb of a tree and falling forward. He was unable to rise, and found it impossible to extend his leg at the knee joint. Flexion of the leg on the thigh was possible, and he could straighten it up to the point where the leg formed an angle of 120° with the thigh, but all attempts at further extension only caused severe pain. There was slight swelling but no pain when the limb was at rest. He walked without discomfort, save that occasioned by the limb being flexed.

Treatment had consisted in rubbings, blistering, etc., but with no relief until about two months after the accident, when he found he could straighten his leg and a small body had apparently come out of the joint and lodged on the left side. Rubbing was resorted to at night when the loose body was discovered on the right side in the morning. It kept moving from side to side for some months, the joint being very stiff at times—especially when at rest. The only pain suffered was when the loose body came out of the joint and when the patient could force it to lodge under the quadriceps extensor tendon, it gave him no discomfort.

On admission to the hospital he was requested to fix the body when it again appeared by means of a pad. This was done and it was transfixed by a needle while an incision was made over it. Unfortunately, before it could be grasped it slipped back out of sight. The wound was dressed and in a few days the body appeared on the left side. Dr. N. held it firmly away from the joint while an incision was made through the tissues, including the joint capsule, when the body slipped out without much difficulty. A stitch was applied and the wound dressed antiseptically. The wound healed perfectly and the joint is now healthy and free from pain.

The loose body was a cartilaginous nodule, irregularly pear-shaped, five-eighths of an inch in length, its apex being soft and pliable as if it had been at one time attached by a fibrous pedicle.

The Microbe of Pneumonia — Its Role in Pathology.—Translation of a lecture by Prof. S. Jacond, Hôspital Pitié, Paris, France. From *Med. Age:*

A patient, aged 34, of good constitution, antecedents correct, never had syphilis, intermittent fever or rheumatism, and was not addicted to alcohol stimulants, entered the hospital, with the following history: While in perfect health he was taken on the morning of Feb. 9, with a pain at the inner angle of the eye, in the supra-orbital region, the corresponding part of the frontal sinuses, the cheeks and gums, all on the right side, and the eye became red and lachrymose. The patient felt a keen sensation of heat in the right nasal fossa, from which flowed drop by drop a limited

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aqueous fluid. This pain was extremely intense and prolonged, with the same characters, for two and a half hours, when the liquid became opaque, viscous and mucopurulent.

In the afternoon the patient had a feeling of stuffiness in the right nostril, but no acute pain, only a dull aching. He had a good night's rest, and found himself in perfect health, when at the same hour 9 o'clock he was attacked with precisely the same symptoms of the preceding day, which underwent the same modifications, and disappeared at night as before. This state of affairs was kept up for ten consecutive days, when he entered the hospital.

A diagnosis was made of facial neuralgia, associated with an irritation and hypersecretion of the right frontal sinus.

Under quinine, 20 grs. daily, he rapidly improved, and was discharged cured after five days' treatment.

A microscopical examination of the liquid which issued from the inflamed nostril revealed plenty of pneumococci. The patient never had pneumonia, and the fact goes to prove that pneumococcus may be met with in healthy persons.

Two Cases of Precocity. *New York Medical Journal*, Oct. 19, 1889.—Dr. Richard Douglass, Nashville, Tenn., speaks of a case of sexual precocity, the boy being but four years and three months old. He weighs 54 pounds, is three feet, ten and one-half inches high, measuring 19 inches around the circumference of head just above the ears. The penis, scrotum, and testes are of the size of an adult, the penis measuring three inches in the flaccid state; the prepuce rests half retracted over the glans. The pubes are covered with soft, silky brown hair. The abdomen is quite protuberant.

The child is self-willed, sluggish mentally, and obstinate. Does not appear to manifest any fondness for the opposite sex, but is given to masturbation. His erections are vigorous, emissions of thin mucus, containing no spermatozoa.

Nothing unusual was noticed up to three years of age, when he contracted a severe cold from wading in cold water. A violent chill was followed by extremely high temperature and delirium. Under a physician's care he soon recovered.

Shortly afterward his mother noticed the change in his voice, and the gradual development of the sexual organs. His father died of acute tuberculosis.

Case 2 was presented by Dr. A. J. Jagve, of Hernando, Miss. He says that on August 14, 1889, a negro called on him and stated that his four-year-old daughter had been menstruating for over two years. The mother first noticed the discharge July, 1887, and took her to a physician, who prescribed, and the trouble was soon gone. The discharge reoccurred, and was again checked. Noticing the periodicity of the attacks their true nature was suspected, and ere long the discharge became normal as to time, quantity and material. The girl is a well grown child, very intelligent for her age, breasts fully developed, pubes covered with hair. The parents are healthy, 45 and 43 years old, respectively. The child is the tenth of the family, there being two younger.

There are about 3,300 physicians in the State of Tennessee. 1,600 of these are not graduates; 1,300 have never attended a medical college; 65 Electics, all graduates; and only 18 Homœopaths that are graduates.

Western Medical Reporter.

A Monthly Epitome of Medical Progress.

JOHN E. HARPER, A. M., M. D., Editor.

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The Editor would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information should be accompanied by the full name and address of the writer, although not necessarily to be published. All communications should be addressed to

WESTERN MEDICAL REPORTER, 163 State Street, Chicago.

Further Details of the Notorious Abortion Expose.

In explaining the *raison d'etre* of another editorial upon a decidedly unsavory subject it is only necessary to state that the readers of the Reporter have been promised a more comprehensive account of the affair than any which has so far been published in a medical journal. In addition to this promise we are inspired by the large number of inquiries regarding the so-called exposé which we have received from physicians throughout the country who have read the editorials which have already appeared in this journal.

In December, 1888, the Chicago *Times*, in accordance with its usual custom—at that time—of publishing articles of a sensational character, began the publication of a prolonged series of articles purporting to be an exposé of the practice of infanticide by the physicians and midwives of Chicago. In this undertaking the management of the paper spared no effort to introduce all the disgusting minutiæ possible. In the alleged crusade against the abortionists, the *Times* was represented as a modern Hercules, whose mission on earth was to succor the endangered lives of infants in utero, and to stamp out iniquity in all forms.

The *Times* was at this time under the management of the notorious J. J. West, a gentleman whose character has recently been shown to be decidedly unsavory, and who, because of a trifling misunderstanding with the authorities, was recently sentenced to the penitentiary for a term of years. To illustrate still further the character of the man who was posing as a modern Hercules, it has been conclusively shown that he was a professional blackmailer of the lowest type. The discovery of his real character has doubtless been very gratifying to those eminent gentlemen in the Chicago medical profession, who so kindly and disinterestedly aided him in his alleged efforts to check infanticide. What a travesty on morality was this! Satan rebuking sin!

The modus operandi of the so-called exposé was this: A female employe of the *Times* escorted by a male reporter professing to be her brother, was provided with a list of names by a medical monstrosity of this city. The gentlemen designated were called upon, and after representing herself as an unfortunate "lady" from the South, an attempt was made to induce the physician to agree to commit an abortion upon her, or if he refused, to induce him to recommend some one who would do the job. After the gentlemen whose names had been given her had been thoroughly canvassed, sensational articles began to appear in the *Times*. After disgusting preliminary accounts of her adventures had been given, the reporter classified her victims first, as those who would do the job for a certain price: second, those who wouldn't, but were wil-

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ling as accessories to recommend others; third, those who would not, under any circumstances. As might be supposed, some well-known delinquents were entrapped, and as also might be inferred by any one who knew the details of the infamous plot, many were black-listed who were innocent and respectable. There was little chance for escape from the plot. The fair one was of a wealthy Southern family—money was no object; "only save the family honor and all we have is yours." This was the first appeal. Woe to him who through sympathy or to rid himself of the she-devil, suggested the name of a possible abortionist. He too, was black-listed as one who had a "partner" who did the work. The *Times* now sent cards to various physicians, requesting them to write letters for publication condemning infanticide. The answers were amusing in the extreme. Some were written by honest and conscientious men who allowed themselves to be duped; others were written as the price of safety, by well-known disreputables. Oh, but it was a merry list! One of the first to write a virtuous letter of indignation, was a man who had been indicted in New York for killing a girl whom he had seduced. This man has since been driven from Chicago for a similar though less disastrous offense. Another letter was written by a man, every brick of whose imposing mansion is said to represent the blood of a slaughtered babe.

But the sweetest epistle of all, was from the man who fathered the vile scheme. This man wrote as one who had been tried in the fiery crucible and had escaped through the safeguard of his righteousness. It makes one shudder with aversion and contempt for this viper when he reads the canting, fixed interview which the female reporter had with the author of the diabolical plot. Pah! Is it not remarkable that the pure sweet flowers with which his credulous and admiring friends demonstrated their appreciation of his righteousness, did not wither in his hands? So carefully was the devilish plot concocted and carried out, that, had it not been for the over zealousness of the *Times* to give honor to whom honor was due, (?) the author of the plot would never have been suspected, save by us. To illustrate how cleverly the author of the plot attempted to hide his fine Italian hand, and to demonstrate that the man whom every one suspects was the principal and not an accessory in the matter, we will state that we have in our possession a letter from a well known newspaper man, which shows conclusively that the father of the plot attempted through the agency of the late Dr. Cronin, to induce the *Tribune* to publish the articles. This paper refused to publish the vile stuff, or to enter into any such damnable scheme; all honor to the *Tribune* for so doing. Cronin subsequently informed the representatives of the *Tribune* "that arrangements had been made with the *Times* to publish the articles." *The creature whom Cronin allowed himself to be duped into representing, knew that his intimacy with J. J. West would be liable to excite suspicion, hence his anxiety to get the foul stuff into the Tribune.*

Now as for the animus:

1st. The discomfiture of his enemies and rivals in certain special professional matters.

2d. Self-aggrandizement.

The profession was in a measure duped into believing in the sincerity of the "exposé" scheme; even the Chicago Medical Society took action in the matter. Its members displayed commendable zeal in attempting to right matters and stamp out the evil. It is said that one of its members was so enthusiastic that he left a charming card party at the house of J. J. West (the editor of the *Times*), and rushed frantically down to the society to take part in the proceedings anent the abortion exposé. Such zeal and self-sacrifice were worthy of all commendation. 'Tis said that this same member even stopped bug-hunting for the nonce and threw himself body and soul, into the work of purifying the profession—poor devil—when he should have been microscopically searching for that same soul.

But after all, the *Times* exhibited great generosity in its treatment of those who so nobly supported it in its Herculean efforts to stamp out the practice of abortion in Chicago. Even though some of the doctors were duped into assisting the *Times* in its attempts to eradicate the evil it is comforting to know that they received appreciation. We recall even now the touching tribute to meritorious worth which the paper paid to one of our eminent townsmen. He should be proud of his position in the matter, and should emblazon the characters of his glorification upon a tablet of brass, that his children may be proud to point to it and say, "He was my father." It is not often that a physician receives the honor which is due him in this world. But the memory of good deeds after all can never fade; it will outlast the sounding brass and tinkling cymbal—it will remain as a sweet taste in the mouth long after the performer has passed away from this ever-changing play and gone to his just reward.

The proud tribute which our professional brother received occupied an entire page of *The Times*.

The glorious character of this tribute to worth and virtue will be better appreciated if the price of full page ads is taken into consideration;—$500 is a large tribute even to merit. Let it not be said then that the newspapers are ingrates.

But to resume our consideration of the monster who concocted the plot which we are discussing. We are sorry that we are compelled to withhold his name—but we must be charitable. We are much in the position of the old preacher who said: "If that red-headed girl in the gallery doesn't keep still, I'll point her out to the congregation." Everybody knows who he is, and it would be cruel to harrow his feelings by mentioning his name.

In the interim, let us draw the mantle of charity about him and console ourselves with the reflection, that even such men as he may have a mission in life. They fill a niche that none others could possibly fill. Science may one day explain their moral turpitude. Benedikt and Osler have given us hope; Tenchini and Badik have given us light; Lombroso and Mills have given us the bread of knowledge. Such creatures may some day be found to have their own special bacillus: God speed the day; we may discover a remedy better than the horsewhip or rope. We are more than ever disposed to be charitable, when we reflect that the visit of the lady (*sic*) reporter was in our case, jealousy's labor lost. It nauseated us, however, to appear even in a favorable light in association with the exposé.

And now with a sweet quotation which we commend to the careful consideration of our erring brother, we will bid farewell forever to the abortion exposé, and its originator; unless, of course, he should absolutely insist that we pay him further attention,

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and compels us to publish statistics and one thing or another.

"Not sharp revenge nor hell itself can find
A fiercer torment than a guilty mind;
Which, day and night, doth dreadfully accuse;
Condemns the wretch, and still the charge renews."

G. F. L.

Back Country Critics.

When Doctor Syntax, in his tour in search of the picturesque, described Mr. Know-it-all, or whatever his name was, who posed as a critic at the play, he unconsciously gave an accurate description of some of the gentlemen who preside in the editorial chairs of certain small-fry medical journals. When one of these fellows dips his pen in gall and begins to disfigure paper with the blunt end of the same, look out. A marked copy of a premature-appearing squib, styled "The Country Doctor" has just been sent to us by one of our friends. This copy contains an editorial criticism of a piece of doggerel of a satirical character to which we had the temerity to affix our name and publish in "The Medical *Mirror*." The gentleman who writes the criticism takes exception to the aforesaid satire because of its "coarseness," etc., and puts his criticism in language too foul for repetition. His English is bad, his style is tainted and his logic,—well, it would require a microscope to see it. We would advise the writer of the criticism to chew a clove and take a carbolized bath; by so doing he may be able to remain in the room with himself. But we are wasting ink in replying to such senseless and vulgar criticisms—such things are really beneath our notice, and in the future will be turned over to the health department for investigation. Such journalistic criticisms are actually dangerous. Our office boy attempted to put this particular "Country Doctor" (save the mark) in the waste-basket with the fire tongs and became asphyxiated in so doing. We were finally compelled to employ a negro to take it out in the lot and bury it. There it peacefully reposes with a tomato can for a monument, upon which brilliantly shines the inscription: "*Requiespolecat in pace*," scratched upon it by a weary tramp, who was unfortunate enough to use the mound for a pillow, but who knew enough to appreciate the situation and leave a "blaze" to warn weary wayfarers ere he crawled away to die.

Apropos of critics we have just seen a screed emanating from an amateur medical journal published in Chicago, which professes to criticise the doggerel above mentioned. We will not undertake to answer the alleged criticism contained in the Chicago Journal. The gentlemen who edit it love us, we are sure, and would not hurt our feelings for the world, but the firm of instrument makers who own the aforesaid journal pulled the string, and of course the puppets had to dance. *Necessitas non est legibus.* The terrified amateur who wrote the criticism is not to blame; we forgive him. One of these days we are going to explain why the owners of the journal aforesaid love us no longer. The explanation may edify their patrons and paralyze the puppets.

What profiteth it a man that he editeth a journal when he thereby loseth his soul to a commercial corporation?

As the *Medical Mirror* seems to be getting more than its share of the abuse which has been showered upon our doggerel, we take pleasure in re-publishing it in the REPORTER. We are not yet convinced that the criticisms which have thus far appeared have not been the productions of men to whom the satire has been only too applicable.

The amateur journal above alluded to suggests that the little jab at post-graduate schools contained in the communication from J. R. is of the "sour-grapes order." We confess that there are some post-graduate schools with which we would consider it an honor to be identified; we will state in passing, however, that the particular school that the amateur editor is championing is not one which will confer honor upon any one until its amateur journalists, reformed homœopaths and other obnoxious elements have been eliminated. But, of course, there must be some tares with the wheat. Basing his lament upon our doggerel, the terrified amateur bewails the decadence of western journalism. It is safe to say that no one will ever accuse him of lowering the tone of medical journalism. He is not in the field—he is too busy in the attempt to elevate the advertisements of an instrument dealer. He edits with an—ax. G. F. L.

"Our Bob" and Vivisection.

A letter from Ingersoll has been going the rounds of the daily press, in which he virulently condemns the practice of vivisection. As usual, Bob prates of "love," and all that sort of buncombe. For a man who has as much brain as Ingersoll, he talks more slush and less logic than any public character in this country. His old-time sensational attacks on religion showed nothing but sensationalism and ignorance of everything save the discrepancies of religion. He knew much of the weaknesses of his adversaries, but very little of those things which might have logically sustained his own position. Evolution is a *terra incognita* to Ingersoll. And now he prattles and drivels about vivisection, and scatters his slush-bucket of love all over the earth and the adjacent planets. Bob looks pretty on a tobacco pail; he fulfills his peculiar function here as nowhere else. Let him therefore stick to his last. He should not talk about the cruelty of vivisection until he knows something about the subject. It looks as if he were carrying water on both shoulders. Is he trying to reëstablish himself in the good graces of the church? Let Ingersoll and others of his ilk who fain would dabble in matters medical and scientific, remember that good old aphorism, "fools walk where angels fear to tread."

The Degree of "Hospital Graduate."

It has recently been suggested by a correspondent of the *Medical Record* that a degree of "hospital graduate" should be instituted in order that men who have taken a hospital course may in some measure reap the benefit which they deserve. With proper limitations this would be an excellent plan—were it not for the difficulty of discriminating between various hospital courses;—some of which mean one thing and some another. It would also be difficult to determine what should constitute a hospital course and examination. It is only fair however, that men who have endeavored by hospital service to thoroughly qualify themselves for practice should derive some practical benefit therefrom. The ex-internes of our hospitals have just as much right to claim precedence over the ordinary graduate as the latter has to assert his superi-

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ority over a practicing non-graduate by affixing M. D. to his name. Should he see fit to do so there is no possible objection,—excepting from men who would split hairs over anything approximating liberality,—to a hospital graduate affixing to his professional cards: "Late Interne X Hospital." If objection be offered, it is sure to come from certain hyperethical individuals who infest the profession, who are actuated by jealousy and envy rather than their self-asserted professional dignity. The pigs outside the clover patch always growl at the fellows on the inside, while the latter ethical chaps quite as persistently,—and with less reason,—growl at the outsiders. "Thou shalt not eat,—not my clover, but any clover," is the doctrinal creed of the pigs in the clover patch.

But the profession strains at gnats and swallows entire menageries.

It is not long since it was a crime to put upon one's cards "practice limited," etc. This is now tolerated and in many quarters is customary. The man who allows the dogma of ethical infallibility to interfere with his just and proper rights in the premises is a weak sister. Let the man who has earned a hospital diploma signify its possession upon his professional cards if he wishes,—in so doing he is as as a matter of principle on a par with the man who writes M. D. after his name. So until a hospital degree has been instituted let the ex-interne announce his qualifications if he so chooses by placing in modest type upon his card "Late interne X. Y. Z. Hospital."

Eastern Gall.

For downright literary piracy and cheeky appropriation of other people's thunder, some of our Eastern brethren really cannot be excelled. A book lies before us which amply illustrated this. There is hardly an original line in the work. In the field of orthopædics, of all others, there is room for inventive genius, but the author in this instance prefers to crib everything and give no credit to any one. In this work on "orthopædic surgery," by Bradford and Lovett, there are more stolen plates than in any work of its size extant.

Thus we notice the following. We append the Nos. of the illustrations, and the authorities from which they were taken.

He who runs may read.

From Stillman, no recognition. Figures, 3, 4, 51, 58, 121, 168, 169, 170, 227, 231, 268, 349, 370, 432, 649, 657, 669, 670, 747. No. 767 wrongly attributed to Sayre.

From Sayre, no recognition. Figures, 134, 391, 403.

From Barwell, no recognition. Figures, 266, 364.

From Hamilton, no recognition. Figure, 287.

From Esmarch, no recognition. Figure, 378.

From Knight, no recognition. Figures, 787, 788, 789.

This work should go with Woods' hundred volume library. Wm. Wood & Co. are not quite so circumspect as they once were; they are sure to injure a previously excellent reputation, if they go on publishing clap-trap. Many physicians were dissatisfied with the hundred volume library. Doctors don't like to pay for back numbers in new covers. It behooves Wm. Wood & Co. to look into their prospective publications before turning them over to the printer.

A New Medical College in St. Louis.

St. Louis is certainly well supplied with excellent medical schools. The latest aspirant to the favor of the profession is the Marion Sims College of Medicine.

Unlike most new medical colleges this school has a faculty of old and tried teachers, some of whom enjoy a more than local reputation.

The college building will present an imposing and attractive appearance on one of the most commanding and well-known of the central boulevards of St. Louis, and its curriculum of study and its interior will be fully up to the exacting demands of advanced modern medical teaching. It will be an ornament to the city, a credit to the profession, and a monument to the distinguished name the school bears, we feel assured, from what we know of its founders. This school takes a new departure in selecting the most beautiful and healthy location to be found in the city; ordinarily medical colleges are too indifferent to this feature of the student's comfort and welfare.

There seems to be a disposition on the part of some of the members of the faculties of the older St. Louis colleges to growl at the new school, and this growling is not altogether worthy of emulation in some instances. We trust, however, that our St. Louis brethren may soon become a prosperous and happy professional family.

Obituary.

Dr. Joseph W. Howe, of New York.

Dr. Joseph W. Howe, one of New York's most celebrated surgeons, died June 7th on the S. S. Umbria, bound for England. The immediate cause of death was apoplexy. He had been for a long time ailing, as a result of infection derived from a wound received while operating. He had started for Europe to recuperate and incidentally to attend the coming Congress at Berlin. Strange to say, he had a premonition of approaching death, and had made arrangements for embalming his body in case of death while at sea.

Dr. Howe was a native of New Brunswick and at the time of his death was 47 years of age. He went to New York a poor boy, and after graduating at the New York University, served a term at Bellevue Hospital. He afterward started an army, navy and hospital quiz and was very successful as a teacher. Some of the best of our American physicians can attribute their success to his thorough teaching. Dr. Howe was eventually appointed to the visiting board at Charity and St. Francis Hospitals, which positions he held until his untimely death. He was undoubtedly one of the cleverest and boldest operators in America. Yet, withal, he was never open to the accusation of rashness. Dr. Howe was well known as an author, his works on "Emergencies," "Excessive Venery," etc., being standard and the best of their kind extant. Few men are so gifted as was Dr. Howe, and to his many excellent natural traits, was due his phenomenal success. From a poor, struggling youth he became a professional and social favorite, enjoying an immense and lucrative practice among the elite of New York. Handsome and courtly, he was a true type of the ideal professional gentleman.

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Dr. Howe was of a very liberal mind and was one of those who seceded from the N. Y. Academy of Medicine at the time of the "code" dissension in that body. His liberality and independence finally cost him his professorship at Bellevue Hospital Medical College, this institution having at that time a liberal sprinkling of orthodox and ethical gentlemen in its directory.

Dr. Howe was at one time clinical professor of surgery in the New York University, his alma mater, and was one of the best teachers in the metropolis. It is with the kindest feelings that we recall this noble gentleman, and we sincerely regret the early demise of one who was our preceptor, friend and kind superior in our hospital service. It was under his eye that we performed our first operation. Apropos of this operation, how many hospital surgeons are there who would allow an interne to perform an amputation of the thigh in open clinic. But Howe was unlike some of his co-laborers upon the hospital staff—he had nothing porcine in his composition. As a student in his office we can testify to the affection with which Dr. Howe was regarded by his pupils.

New York has been most unfortunate in her professional losses in the last few years. Van Buren, Sands, Elsberg, Mason, Flint, Parker, Little, Agnew, Peters, Clark, Sims, and last but not least, "Joe" Howe, as his pupils affectionately styled him. What a galaxy of stars has disappeared from the field of medicine! L.

At a meeting of the Medical Board of St. Francis Hospital, held June 18, Dr. J. H. Ripley offered the following, which was unanimously adopted:

Whereas, The Medical Board of St. Francis Hospital have heard with profound sorrow of the death of our colleague, Dr. Joseph W. Howe, be it

Resolved, That we desire as individuals, and as a Medical Board, to express our appreciation of our late fellow-member. As a bold and successful surgeon, always equal to the emergency, we valued his services in our institution. As a man of moral courage, ready to defend, by word or act, whatever he believed to be right, we respect him. As a frank, unselfish, large-hearted friend, we loved him.

Resolved, That a copy of this testimonial be sent to the bereaved family, and also to the Sisters of St. Francis Hospital.

Resolved, That these resolutions be spread upon the minutes, and be published in the New York *Medical Record*, and also in the New York *Medical Journal*.

CARL H. LELLMAN, M. D.,
WALTER R. GILLETTE, M. D.,
J. H. RIPLEY, M. D.,
GEORGE F. SHRADY, M. D.,
GEORGE M. EDEBOHLS, M. D.,
Medical Board.

There is to be established at Atlanta, Ga., a hospital for charitable purposes to the memory of Henry W. Grady. It will bear the name of this eminent journalist, whose death so recently is still fresh in the minds of many.

The Babies Hospital, New York City, has established a training school for nurses for instruction in the care of children. This is a much needed addition to hospitals, and we would like to see more of such schools throughout the country.

Book Reviews.

A Text-Book on Diseases of the Eye. By Henry D. Noyes, A. M., M. D., Pofessor of Opthalmology and Otology in Bellevue Hospital Medical College; Executive Surgeon in the N. Y. Eye and Ear Infirmary; recently President of the American Opthalmological Society, etc Royal octavo, 733 pages, richly illustrated with chromo lithographic plates and 236 engravings. Price, bound in extra muslin, $6, sheep, $7. New York: William Wood & Co.

The authoritative style of Professor Noyes is shown in the above work to good advantage. Having formed an opinion based on experience, he does not hesitate to express it in a decided manner, and advise the best mode of treatment to be employed in that particular case. Part first treats of the general anatomy and physiology of the eye, how to examine the ophthalmoscope, glasses, errors of accommodation and refraction, binocular vision, strabismus and asthenopia. Part second treats of inflamation, changes of organic texture, with proceedings of operations. As a knowledge of opthalmology is often a key to diagnosis in diseases of the internal organs, it is extremely important that the general practitioner should be familiar with the pathological conditions as well as the external and internal diseases this organ is subject to. A careful study of the above work cannot fail to benfit.

The Psychic Life of Micro-Organisms. A study in Experimental Psychology, By Alfred Binet. Translated from the French by Thomas McCormack, with a preface by the author written especially for the American edition. Chicago: 1889. The Open Court Publishing Company. Cloth, 75 cents. Paper, 50 cents.

The author is one of a number of scientific and eminent men in the French Schools of Psychology, and presents to the public a subject not little understood heretofore. The results of his recent experiments and investigations in the study of Micro-Organisms are set forth in the above volume, and is the first systematic work on a subject of great interest to those interested in natural science. There are eighteen cuts illustrating different phases in the life of Proto-Organisms.

Electricity, and the Methods of its Employment in Removing Superfluous Hair and other Facial Blemishes. By Plym S. Hayes, A. M., M. D., late Professor of Chemistry and Toxicology, Woman's Medical College, etc. Chicago: W. T. Keener.

The treatment necessary to successfully combat one of the most vexatious complaints, especially to womankind, is excellently described in the above little work. The author has endeavored in a concise and clear manner to give such information as is positively necessary. "The Histology of the Skin and Hair" is illustrated by cuts, and another chapter treats of the "Necessary Apparatus and Mode of Operating." Treatment of port-wine marks, moles and other facial blemishes is also given in an interesting style.

The ever progressive house of Parke, Davis & Co. are out this month with some seasonable suggestions as to eligible remedies for prevalent diseases of hot weather. They have a very convenient list of intestinal sedatives, antiseptics, antispasmodics and anodynes for diarrhœal and dysenteric affections, some new expectorants of note for coughs and colds, and a normal liquid ipecac always reliable as an emetic in cases of gastric disturbances due to accumulated fermented food, so frequent a cause of infantile diarrhœa.

By way of gossip, we may state that this house is largely increasing its facilities for the manufacture of pharmaceuticals. Buildings now in process of erection will double their capacity for production this year, and a new laboratory very complete in its appointments is now being built for them in Canada.

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ANNOUNCEMENT.

The editors of the *Western Medical Reporter*, of Chicago, both able, poetical, scientific and learned, but burdened with a characteristic Chicago modesty and timidity (which as is well known so often interferes with the "*World's getting a Fair*" knowledge of their merits), on the occasion of a recent visit to St. Louis privately informed a few friends of the fact of their having received a confidential communication from the Whitechapel Ranger which "did inspire their poetic fire" to such a degree as to make their life a burden unless the world should be permitted to enjoy the warmth of the aforesaid fire.

The editor of the MEDICAL MIRROR being appealed to, in a self-sacrificing spirit, at great cost agreed to relieve them of their discomforts, even at the expense of an anxious and suffering world, upon securing from them a promise to ever after keep themselves completely bottled.

The MIRROR, always desirous of giving Chicago an opportunity to demonstrate her possession of talent (not gall), presents herewith the satire worthy of a Juvenal, in the form of communications to and from the hero of Whitechapel, London. — [EDITOR MEDICAL MIRROR, St. Louis.

A COMMUNICATION FROM JACK THE RIPPER.

WHITECHAPEL, LONDON,
April 15, 1890.

To the Editors of "The Western Medical Reporter:"

GENTLEMEN — As you seem to be well informed in matters general as well as medical, I desire to confer with you on a matter of the greatest importance — both to myself and my American brethren.

I have been engaged in the practice of surgery in London for some little time — paying considerable attention to my specialties of laparotomy and oöphorectomy — and with all due modesty I am free to say that I have achieved a more than local reputation as a thorough and finished operator.

On account, however, of the fact that I am not a regular graduate — and indeed I do not possess even a literary degree, — there is much prejudice against me on the part of the Fellows of the Royal College. I have therefore thought that a change of base might be desirable. On conferring with my cousin, Mr. L. T., the distinguished "regular" eviscerator, I was advised to go to America, where (Mr. T. informs me) I can get a license to practice quite easily, and can also secure an abundance of material. He also sent me a copy of an American medical journal, which contained a record of a hundred or so cases operated upon by a provincial professor of my noble art, as illustrative of the fertility of the new field which he suggested. Of course, such exploits put me to the blush, as I have barely operated on more than a dozen subjects even in this, the world's great metropolis. But, dear editors, you know the pressure of prejudice against us irregular practitioners, and can appreciate my embarrassment at the howl of jealous indignation which my exploits have excited. How different 'twill be in America, that land of the free and home of the docile womb and tractable ovary. Ye Gods! why was I not born under the shadow of the stars

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and stripes, where Bill Jones, of the cross roads, may aspire to as blissful a record of eviscerations as even the fondest hopes of L. T. could desire? For the benefit of my brethren of America, of whom I shall be proud to be considered a co-laborer, I take pleasure in stating that I have invented several new eviscerators, — upon which I have secured patents, — which I shall be pleased to place at the disposal of the American profession.

A description of these remarkable additions to the gynaecic armamentarium chirurgicum, will shortly be disseminated throughout America via that excellent medium, the *New York Weakly Bladder*.

Now, dear editors, *entre nous*, I want you to tell me what American school I had better matriculate in and where I had best locate after graduation — next spring. Also kindly inform me what in your opinion my prospects are of a professorship after graduation. An early answer will greatly oblige,

Your sincere admirer,

Dr. Johannes Ripperinus.

(Known in the vernacular of the vulgar herd as "Jack the Ripper."

P. S. I cannot tell you how I long for the time to come when I shall be amid congenial souls who will appreciate my genius and greet me as a brother. Heavens! but this intolerance and bigotry on the part of the so-called "regulars" is killing me. 'Tis the worm that never dies!

J. R.

P. S. S. Please announce my proposed change of location through the columns of your valuable journal.

J. R.

In answer to this charming evidence of the esteem and confidence of the most distinguished laparotomist of modern times, the editors of the *Reporter* wrote as follows: —

Dr. Johannes Ripperinus:

Esteemed and Honored Frater — It is with mingled feelings of gladness and regret that we hasten to answer your letter of inquiry.

We rejoice to learn that we are to be favored by so valuable an addition to our ranks, but we regret that there will no longer be a likelihood of your practicing in the Royal family; — a function for which we believe you to be peculiarly fitted. This regret will, we are sure, be experienced by every good republican. We have long admired you as the only honest specialist of our acquaintance, — the only man who has not attempted to mask his desire for perfection in mechanical operative technique, by a false and sickly sentimentality. Yes, there is room for such honesty and skill, though you must get up early in the morning if you would win numerical laurels from American gynæcologists. We would recommend you to matriculate in the Squedunk University of Posey City, Odell County, Indiana. You can get along with one lecture a week; — it is only necessary to take instruction in your chosen specialty; any other information which you might acquire would cause you to lose caste among specialists; — the remainder of the time you can devote to practice. You will undoubtedly be appointed to a professorship by next fall at farthest, — if not, you can start a post-graduate school and appoint yourself to the majority of the chairs.

Hoping to greet you soon and thanking you for the honor you have done us, we have the honor to remain,

Faithfully yours,

Editors Western Medical Reporter.

P. S. On further reflection we think that you had better locate in Chicago after you graduate; — we have very few colleges here, and no schools for post-graduate instruction. Our Chicago profession are amiable fellows and are animated by a fraternal affection which is touching in the extreme.

Again, we are to have a new medical library — at least we have a list of officers elected and all we need is a few books and a building; — this is to astonish the scientific world.

Yours,

Eds. W. M. R.

It is not often that the muse inspires the Editors of the *Reporter*, but on pondering over this affecting correspondence the aforesaid muse got there with both feet, — with the following remarkable result, — for which the associate editor is alone responsible:

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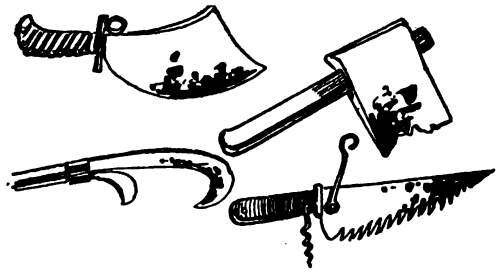
A PELVRHYMETRIC ODE.



YE ARMAMENTARIUM RIPPERICUM.

AND now if 'gainst my plan you'll not protest,
But grant my muse due toleration,
A brilliant scheme I will suggest,
To every medic in our Nation.
'Tis that our gynic surgeon with his style so quaint
A genius now adopt that ever should,
Be worshiped as his patron saint,
Presiding o'er his worldly good.
I commend him then to Ripper Jack,
Who's soon among us to locate,
Whose record is so long and black,
'Tis envied e'en by L. — T.
Johannes is a dear old boy,
Whose mode of quick evisceration,
As practiced on his *filles de joie*,
Must surely meet your approbation.

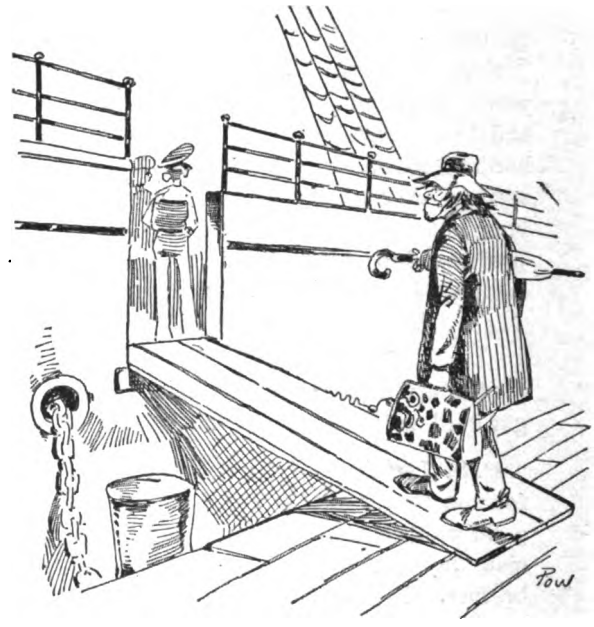
(I only fear this charming wight,
With way persuasive, manner neat,
May ill-timed jealousy excite,
Should he perform the wondrous feat
Of spaying two or three per night,
And thus outstrip the yearly score
Of those whom scientific school
Hath given license to do more
Than e'en the most ambitious ghoul).

Ah! Bloody Jack! tho' to thy trade thou'rt true
And thou delight'st to hear thy victim's moans,
Th' exploits of "doc" are ghastly too
Tho' anæsthesia hides the patient's groans.

And Jack, if you your duty shirk,
Or sleep too late o' mornings,
And fail to quickly do thy work
Despite my kind and friendly warnings,
My gynic friends will soon thy laurels win.
For they will ne'er like thee procrastinate,
But put thee in the soup like terrapin,
While hundreds they eviscerate.

Now as I write I mind me well
Of a surgeon friend whose years are tender,
Who doth with modest mien the story tell
Of forty cases since September,
Of erratic ovaries and vagrom wombs,
From various pelves cut away,
Their owners long consigned to tombs,
While he his trophies doth display,
At learned medical convention,
That marvels much, yet fails to ask,
What points he brings to its attention,
That justify his gruesome task.

Yea, and marvel 'tis that surgeon callow,
Can so many female forms dismember,
That great the strain on thoughtful fellow,



HO, FOR NEW YORK!

His wondrous records to remember,
Still greater marvel than the other
(And this should paralyze the nation),
Is what our playful surgeon brother,
Will substitute for procreation,
When woman, through his vile proceeding
With ovaries and tubes both gone,
Has lost at least her power of breeding
And become an Amazon.

Lo! as he stands with modest air and way seductive,
Telling of his wondrous operation
That makes woman non-productive,
Bringing ruin to both sex and Nation,
Why is there none to rise and slay him,
Or, (most poetic retribution),
To anæsthetize and spay him,
And thus bust up his constitution?
Yet sauce for goose is sauce for gander,
Doth an ancient maxim say,
Such things may raise the woman's dander,
'Tis a game that two can play.

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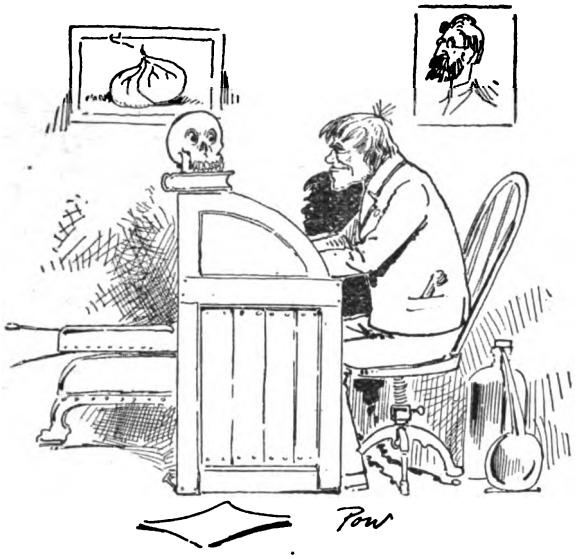

SHE WHO ENTERS HERE LEAVES HOPE BEHIND.

And now lest I embittered seem,
Or perchance appear but jealous,
I will relate a horrid dream,
('Twill ever make my knife less zealous
And I trust may also vex
And warn ambitious gynic fiend,
Of danger to his manly sex,
From those 'gainst whom he's vilely schemed.)

'Tis justice that the worm should rise
And sting the hand of its oppressor,
But juster still that woman wise,
Should be of wrongs her own redresser.

Methought I sat in college grand,
A temple of the learning sage,
That woman dear on every hand,
Impresses on this modern age.
A female Prof. so prim and fair,
With word and manner scientific,
Stood teaching with a learned air,
With gesture fierce and mien terrific,
The neuroses of the sterner sex,
In that persuasive winning way,
That never student can perplex,
Tho' from the text her mind doth stray.

She's discussing now the cause of colics,
And methinks I hear her state,
"The chief offender is the ——,
And therefore should you operate"
The students' hearts go pit-a-pat,
In unlooked for agitation,
Excitement o'er they know not what,
The prospect p'r'aps of operation,
Upon the first unlucky male
Whose nerves with woe are shaken,
The treatment surely cannot fail,
When once his testes have been taken.

And so you see the female doctor
(You must admit 'tis only square),
May also be a wise concoctor
Of fads that woe and war declare,
On testes and the tubes spermatic,
Of ye male so debonnair,
Whose own proceedings so erratic,
'Rouse to wrath the vengeful fair.

"Huzza!" I look again to learn the cause,
The meaning of the dreadful din,
On high she holds mid loud applause
A monstrous bucket made of tin,

To the utmost filled with precious stones,
Prized more than gems of old Golconda,
The vision thrills my very bones
And fills my soul with wonder.

"WHO DOTH THIS GHASTLY EVIDENCE DISPLAY OF MUCH AND GOODLY GAME THAT SHE BETIMES HATH BROUGHT TO POT."

Thank God! I wake, the scene appalling,
Is more than my poor nerves can bear,
Yet still methinks I hear her bawling
Words of cheer to listening fair.
"When your case hath course confusing,
Ladies all, do not despond.
Recall the theme I'm now enthusing,
Use your testic skill profound,
Know that the ills of all creation,
Are dependent on a change,
Some peculiar cystic alteration,
In these organs quaint and strange."

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"Delay not then with therapeutics
But with scalpel firm and keen,
Quickly bare the cords spermatic,
And remove these things you've seen.

What tho' George should lose his whiskers,
Or tenor high his voice become,
He can hie him to the Sisters,
Where rude man may never come."

And now, my friends of tastes barbaric,
You can see how things may go,
When the female "med." tartaric,
Has her inning,—so go slow,
Don't proceed with haste unduly
To remove an ovary,
For sure as fate the women truly
Will some day take a hack at thee.
Let this be a premonition,
Solemn warning to beware
Of the sad forlorn condition
In which eunuchs ever are.
Like him who lay with thirst a dying,
In the middle of the sea,
Thou wilt see plenty round thee lying,
Yet find no happiness for thee.

SISTERS EVER.

N. B. By taking advantage of poetic license, it is possible that the meter of this touching composition might have been improved. As, however, the object of the author is more practical than poetical, the intellectual readers of the MIRROR will doubtless overlook all of the glaring defects. Any abuse which the marvelous production may seem to merit will receive prompt attention if forwarded at once, (as second class matter) to Mr. Tom Powers, the more or less celebrated artist of the Chicago *Herald*. The inspiration which animated the author of the poem (pardon, oh, sainted Homer, mercy, omnipotent Muses!), can be charged up to the celebrated "Whitechapel Club" of Chicago. Jack the Ripper is its patron saint, and has been borrowed for the occasion. (First appearance upon the medical stage.) He has been returned, a little the worse for wear.

Items.

The Health Department of Providence, R. I., has issued a circular, in which we find the following suggestions for popular appreciation for the prevention of consumption:

(1) "No person with consumption should ever spit on the floor or in the street. If handkerchiefs or bits of cloth are employed they should be at once disinfected or burned. A good plan is to use a small, wide-mouthed bottle with a rubber stopper. The contents should be thrown into the fire and the bottle and stopper thoroughly scalded with *boiling* hot water every day.

(2) "The dishes used by a consumptive should be at once scalded, and the unwashed underwear and bed-clothing should not be thrown with that of other persons, but should be thoroughly boiled as soon as possible.

(3) "When a person with consumption has diarrhœa, the discharges from the bowls should at once be disinfected, as at this time they contain the disease germs. A good way is to add a half-teacupful of fresh chloride of lime, or fill up the chamber vessel with *boiling* water.

(4) "No one with consumption should sleep in the same room with another person, and the room occupied by a consumptive should be thoroughly cleansed as often as possible.

(5) "No mother with consumption should nurse an infant, and children ought never to be taken care of by a consumptive person."

There is said to be a leper in the City Hospital at Evansville, Ind. The patient states that he has had the disease for fifteen years, and is only 25 years of age.

The candidates for appointment on the Army Medical Board passed their examinations in the City of New York in May. There were quite a number of applicants.

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Western Medical Reporter.
A Monthly Epitome of Medical Progress.

VOL. XII. AUGUST, 1890. No. 8

ORIGINAL ARTICLES.

The Study of Bacteriology in Medicine.

BY FRANK S. BILLINGS.

The study of bacteria has enjoyed so much mystification and been so frequently placed in a false light before the world, so many unnecessary difficulties have been thrown about it, especially in its relation to pathology that it seems to be a general obligation to endeavor to simplify matters all that they are capable of. These remarks bear especial reference to methodic rather than the physio-biology of micro-organism, which is certainly difficult enough and at present almost a terra-incognito to us. Bacteriology *per se* is a branch of general mycology and belongs in the domain of Botany and yet it is questionable if far more knowledge has not been gained in the new field of research by investigators of the patho-biological school of research rather than by botonists. As to classification, which is especially the duty of the botanist, those investigators have left us almost entirely in the lurch and necessarily, for as yet our knowledge is so indefinite that any scientific classification other than a morphological is at present beyond the range of possibility. Patho-etiological investigators have, however, become more or less united in a certain morphological classification which at present seems to answer all practical demands very well indeed.

From this point of view we have:

I. *Cocci*, or round objects, that is, micro-organisms alike in all their diameters, which color diffusely and thus are in general to be distinguished from spores, which, by the same method of treatment seldom color diffusely, their capsule only taking the tincture. By special methods of treatment spores can also be colored throughout.

II. *Bacteria*, or microscopic vegetable organisms in which the longitudinal diameter but little exceeds the transverse; that is ovoid instead of round micro-organisms.

III. *Bacilli*, in which the longitudinal diameter is more than double that of the transverse, that is rods.

IV. *Spirilli*, or cork-screw like micro-organisms.

V. *Plasmodiæ*, objects of rather indefinite form, but microscopic in character, occurring in malarial diseases.

VI. *The fungi proper*, such as actinomyces, botromyces and other better known varieties.

Naturally this classification may be subdivided in many directions, but at present it answers our practical necessities very well.

The next thing of interest is the

CULTIVATION OF BACTERIA.

Up to the time in which Robert Koch gave to the world the so-called solia methods of cultivation, the obtaining of pure cultures was bound with very many difficulties, but much experience has taught me that these difficulties were far more seeming than real, and that the real cause of so much failure in obtaining pure cultures is not to be sought so much in any particular difficulty in the use of fluid media as in a want of proper pathological acumen and an insufficient differentiation of specific from secondary lesions. We will return to this subject in a few moments. Let me here remark that I have carried fluid cultures of one germ for over 100 consecutive weeks, not only renewing the generations in new material each week, but frequently making from 20 to 50 cultures from the parent flask in a week, and during all that time never had the culture become polluted. Not only have I done this with this one culture, but have another of the same germ, which has been carried on in the same manner for 93, and several others from four months old to as many weeks, and I find no difficulty in so handling my transferances as to keep them pure.

During the early days of patho-bacteriological research, however, much difficulty was found in obtaining pure cultures of a desired germ, the methods of isolation were very crude; in fact, the obtaining of a pure culture must be said to have been more a matter of good luck than actually skillful technique. It was what might be called the dilution, or perhaps better attenuated distribution method, by which we endeavored to scatter the germs very thinly over a very large number of vessels containing the cultivating media, *bouillon*, and then when development manifested itself, seeking for a pure condition of a culture by microscopic examination and eventually controlling it by inoculation. We scarcely then knew that if a specific disease producing germ was mixed up with others in a given material, that by the inoculation of a susceptible animal with such a mixture we could most always obtain the desired germ in a pure culture by exact regard to technique and far more by a very exact differentiation of the specific lesion due only to the action of the desired micro-organism.

These difficulties were very largely, if not entirely, removed through the introduction of solid and solidifying media by Robert Koch, especially that part of the technique so well known as plate culture. The manner in which Koch arrived at the idea which made his technique so valuable to the investigating world may not be known to all, as it has almost passed into forgotten history, even after this brief elapse of time. He observed that moulds often grew in isolated and sharply-defined colonies, upon potatoes, bread or such things when they were left exposed to the air of a room, and found, by examination, that each of these colonies were microscopically composed of but one species of fungus, and by the transference of minute particles of such colonies to new and uncontaminated material of the same kind, that exactly the same colonies again develop. The natural result of such observations to so close an observer of minute phenomena as Koch, naturally led to the idea that if some solidifying material could be found which could be added to sterilized meat juice, and a very small number of such germs be inoculated in such a medium and the same poured out in a thin layer, that each individual germ must necessarily remain fixed in the position where it was when the fluid cooled and from thence develop into colonies. His wife's wine jelly or some such experience probably led him to the selection of gelatine, at least the addition of this substance to beef infusion, led to the much-desired result, a discovery which gave the impulse and practical direction which has made modern bacteriological investigation capable of so many satisfactory results. Koch's methods is rightly expressed in his name, though it but partially portrays all the technique necessary. It is no disparagement of the reputation of this investigator to say that the first qualification necessary in order to

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follow him successfully is that the person must be an exact and extremely cleanly cook. Absolute cleanliness is the primary desideratum. The second is that the worker must be an equally exact and pains-taking husbandman; he must sow no tares with his wheat if he desires a pure and unadulterated crop.

These two are the characteristics and necessary qualifications of a successful bacteriologist.

THE VALUE OF FLUID MEDIA.

The result of Koch's method of isolation by the use of solid media was to temporarily drive those of a fluid character almost entirely into the background and to create a mania for priority in the discovery of almost any kind of an object to which the name "bacterium" could be attached with a most reckless disregard as to whether the noted object had any specific value or not in reference to pathology. Bacteriology at first became a sort of semi-scientific playground for dilitants. That day is largely over, thanks to the logical attacks of the true pathological school of research, and with it has returned a proper appreciation of fluid cultivating media which are as indispensible to true investigation as those of a solid nature. In fact, they cannot be avoided. While nearly all specific-etiological micro-organisms sooner or later lose their virulence when developed in or on solid media, by the suitable adaptation of the nutrient conditions it is possible to retain this attribute for an indefinite period in fluid media, or to so change the nutrition as to soon increase or decrease the virulence of a given germ, or even to retain it at any desired degree of virulence for any length of time. Aside from this, the chemical products of germ life can only be studied by means of fluid media, and almost all the practical results which may yet be attained will depend equally upon this kind of nutrition. Again, when we use common sense and have a respectable knowledge of pathology it is possible to obtain pure cultures in fluid media with as equal certainty as in solid, even by direct inoculation, and that is by exactly observing and empirically discovering the specific lesion to the germ and the period in its development in which the germs are nearly always certain to be present in an unadulterated condition. This is possible in nearly every case in specific septicæmiæ, and equally so in diseases characterized by specific eruptions or neoplastic lesions.

THE STERILIZATION OF CULTIVATING MEDIA.

According to the teachings of Koch and the practice of nearly all those who follow in his footsteps it is the custom to subject cultivating media to at least three sterilizations at intervals of about 24 hours. This procedure is absolutely unnecessary. For a long time I have never subjected any of my cultivating media to any sterilization after having once filled test tubes, flasks or other vessels, and will venture to say that a polluted vessel or tube does not occur in my laboratory once in six months or once in many thousand tubes or flasks. In fact in the last six months only one such thing has occurred. The secret of exact sterilization is to handle all media hot and free from contact with the air to the utmost possible degree. The ordinary steam sterilizer is as unpractical a thing as could ever have been thought of, in the size generally used. It is too small for anything but little work. As steam sterilizer should be as large as a flour barrel and hold water enough to warrant its not needing a fresh supply even at an extreme degree of heat for 48 hours; the grating should be low enough down to allow the entire filtering apparatus to stand within, when the cover is on; my own is large enough to hold 3 filtering tunnels at one time. The agar or gelatine beef-infusion is made entirely therein; filtered therein, and from thence the filtered fluid, hot, is poured into a flask with a tubular end supplied with a faucet, the end of the tube being drawn out to a point, which on shutting off prevents any dropping. The tubes being well sterilized, they can be filled in this way, even to thousands, without one ever becoming foul, or requiring any further sterilization, bouillons, or any other fluid media can be treated equally successfully in the same manner.

HUNTING SPECIFIC DISEASE-PRODUCING GERMS.

In a late publication of the United States Agricultural Department it has been inferred and almost stated, that my methods of investigation were not those of Koch and hence erroneous, and not to be relied upon. Certainly the results of my work have been such, and have gained such general recognition among men whose opinion is authoritative that any refutation of such insinuations would be superfluous on my part, and I would pass over them with dignified silence, were it not that a most valuable and instructive lesson can be drawn from them.

In December, 1888, the Commissioner of Agriculture of the United States appointed a "Board of Inquiry" to settle certain disputed points regarding the swine plague of this country; and it is a very singular phenomenon that while this "Board" did decide absolutely against every true fact in the case that the swine-growers of the country and leading live-stock journals have all refused to accept their conclusions. Such a report was probably never made before in the history of the world in the name of scientific research.

In this regard I desire to interpolate portions of three very interesting letters, which I honestly feel it is my duty to place where they may become recorded as historical events in the comedy of original research in diseases in this country up to this time.

The first of these letters is dated:

"THE ART CLUB OF PHILADELPHIA,
December 18, 1888.

"MY DEAR DOCTOR: * * * In accepting this appointment on the Swine Disease Inquiry Board, my sole incentive and aim is to get at the truth and publish it without thought of whom it may overthrow or confirm.

I am yours truly, E. O. SHAKESPEARE.

The character of the report when weighed in the light of the true facts is sufficient evidence of the sincerity of the assertions of the writer of the above letter.

"CHAMPAIGN, Ill., Aug. 10, 1889.

"DEAR DOCTOR: * * * You can understand that it was hard for separate workers to make a report. Would liked to have published full details but found only certain conclusions could be argued upon, not always worded as one would do it himself.

"At any rate, nothing whatever was considered except what is the fact.

"Yours truly, T. J. BURRILL."

The "fact" is that but very little had any consideration that could be dignified with the title of a "fact" by the gentlemen in question, in proof of which I append the following convicting and most wonderful letter as coming from an original investigator and addressed to another. Let me say that I have the original before me as I write;

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"AGRICULTURAL EXPERIMENT STATION,
UNIVERSITY OF ILLINOIS,
CHAMPAIGN CO., Ill., Aug. 13, 1889.

"MY DEAR DOCTOR DETMERS: I suppose you have seen by the papers that the report of 'Board of Inquiry Concerning the Diseases of Swine,' has been presented to the Washington authorities; and I suppose too, that you are disappointed, at least in my signing the clause in respect to your early work. Yet I know fully that you would not feel hard if you knew what I did do and what I tried to do and failed. I could not help knowing that the 'germ' you worked with, 1878-80, was the same as that now held by you to be the cause of the disease you call 'Swine Plague.' I knew this without examination last winter. I have not said you were not entitled to priority in this, neither has the Board. When I see you next week at Buffalo, this will be fully explained. After a little, when the time seems to be proper, I want to say as an individual, what I know and what should have been said in the report. While I could not help doing what was done, I was far from satisfied." * * *

"I am faithfully yours, T. J. BURRILL."

Do these letters look as if the finding of that "Board of Inquiry" was according to the "facts," or that the "sole incentive and aim" of its members was "to get at the truth?"

With regard to the letter of Prof. Burrill to Dr. Detmers, it should be known that letter was written about two weeks before the complete report of the board was made public, and one day, at least, before even the publication of that part of the report signed by Prof. Burrill and Dr. Shakespeare, appeared in our Live Stock Journals, and which was dishonestly sent out by the government, as the "report of the board," and gave the impression that it was such, and was endorsed by the gentlemen in question as such. When, in fact, a minority report by Dr. Bolton, was held back from the public, which decidedly contradicted the chief and most important assertion of the majority.

Why should Prof. Burrill apologize in such a self-convicting and abject manner to Dr. Detmers, if he had not thought himself guilty of having done him a grave injustice? To be sure they did not say Detmers had no claims for "priority," but they did infer he had no right to make any such claims. Whereas, he had every right, as indicated by Prof. Burrill's letter to him. If, as Prof. Burrill wrote me, Aug. 10, 1889, the board honestly "considered (nothing) except what is the fact," then why was it necessary for Burrill to write to Detmers that he unfortunately had to sign a report which was not according to the facts, as he promises to show "after a little, when the time seems to be proper," and when he (Burrill) will "say as an individual what I know, and what should have been said in the report."

These letters present a melancholy and disheartening picture of the character of most original researchers in this country at present, so far as it has to do with patho-bacteriological investigation.

Having shown the peculiar psychological condition of the members of the "Board of Inquiry," who wrote and endorsed the insinuations against the methods pursued by the writer in his work. I will now quote the passage:

"(4.) It is the opinion of the Commission that the microbe that Dr. Detmers at present regards as the specific cause of "hog cholera," is probably the same microbe which is considered by the Bureau authorities as the specific cause of hog cholera; but, according to present requirements of bacterial research and interpretation, it is impossible to declare that the organism as described by him in his reports published by the Department of Agriculture was the same thing.

In their observation of the methods of bacteriological research pursued by the Bureau of Animal Industry at Washington, the Commission are of the opinion that as to carefulness and precision they are up to the standard of modern requirements concerning bacteriological investigations. *They are essentially the same as those pursued at Berlin, in the pathological laboratory of the Imperial Board of Health, and in the Hygenic Institute, of which Professor Koch is the head.*

From their observation of the methods of bacteriological research, pursued by Dr. Billings, in Nebraska, *the Commission are of the opinion that it was difficult, if not impossible, for that distinguished investigator, by his usual method, to discover and isolate a germ associated with the "hog cholera germ" in the tissues of the body of the pig, and this is particularly true of the so-called "swine plague" germ, claimed by the Bureau authorities to be the specific cause of the epidemic disease, latterly named by them, "swine plague."* In the opinion of the Commission, therefore, the failure of Dr. Billings in his researches to find the so-called "swine plague" germ in the tissues of the spleen, (the organ from which he almost invariably made his cultures) cannot be regarded as incontestible proof that the "swine plague" germ has had no existence in the afflicted hogs which have fallen under his observation, and affords no evidence that this last named disease does not occur in Nebraska."

The point raised by these investigators against the methods pursued by me in my work, then, is that I did not work according to the regulation methods of Robert Koch; hence my work has been unreliable, while on the contrary, the bureau investigators did work according to Koch's methods, *ergo*, their investigations must be considered as reliable

Before discussing the point, I wish to show from the report of the "Board of Inquiry," that they contradict themselves, and are inconsistent in their inference, and that they do give testimony which emphatically shows that I must have worked according to Koch's method, and approximately correctly, also.

"(3.) In the opinion of the Commission, the epidemic disease of swine investigated by Drs. Billings and Roberts, in Nebraska, however seemingly different in the published descriptions, is identical in its clinical features, pathological lesions and specific cause with the disease investigated by the Bureau of Animal Industry at Washington, and called by the latter "hog-cholera;" and, furthermore, that the pathogenic microbe which is the specific cause of this disease is identical in both instances. *It is also their opinion that the descriptions of this germ published by each of these investigators are in the main correct.*"

How could my descriptions have been "correct in the main," being, as they necessarily were, of the development of the germ in and on different media if I did not work according to Koch's methods? It would have been impossible for me or any one else to have worked on any other.

Koch's methods are those of cultivation in and on solid media. Nothing more! They neither apply as such to morphological or biological examinations under the microscope nor to fluid media. As said, they apply to the lege-artistic use of solid media only.

The introduction of Dr. Roberts' name in the matter is one of those despicable acts which none but men of the most insignificant mental caliber would be guilty of. These Commissioners know and knew that Dr. Roberts is not an original investigator in any sense of the word; that he is neither a pathologist or a bacteriologist and he does not make any claim to being such. Not a line has ever been published by him in any medical or scientific journal upon either subject, nor has he ever worked out the life history of a single germ or the genesis of a single pathological lesion in his life. In making these statements I am not disparaging my friend, but rather simply repeating what he said to me on the subject. Dr. Roberts is a practicing physician in Nebraska, of exceedingly fine mental gifts and one of the Regents of the State University, where I was engaged. Being interested in microscopy, he spent all the time he could spare during the quarterly meetings, of two or three days, of the Board, in my laboratory, and becoming interested in my work, acquired quite a considerable degree of familiarity with what he saw, particularly with the swine-plague germ, which he learned how to recognize and cultivate, and in tubes, supplied him by me, he did also a little original research at his home on this disease, sending me his cultures for verification. Being a physician and also one of the Regents, he thought it his duty to go over the whole literature on the subject, the result being that he was obliged to report to the Nebraska public that my work was correct and the Government's the contrary in some daily and local agricultural papers; but it is false to infer that Dr. Roberts took any actual part in my investigations, I consider the treatment I have re-

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ceived, as well as the character of the report made by this "Board of Inquiry," to be a serious breach of every principle of medical ethics and a disgrace to the profession in this country.

Furthermore they had no fair opportunity to see my method, as everything was temporarily stopped and my laboratory cleaned up preparatory to their arrival. All they really saw me do was to inoculate a few tubes from one spleen and make a few autopsies on my own material. I did not suppose I was to receive a lot of sneaks, but rather three honorable scientific investigators. In the letter of instructions sent me they never said one word about examining my methods of work. Had they done so, they would have found me conspicuous by my absence, for I consider such a procedure insulting at the hands of men, not one of whom has a particle of reputation for original research in patho-bateriology, not one of whom had ever actually discovered and described a single specific germ.

Anticipatory to their visit the chairman of the board, Dr. Shakespeare, wrote me a letter purporting to state what they were instructed to do in their investigations, portions of which were as follows:

"1336 SPRUCE STREET, PHILADELPHIA, December 18, 1888.

FRANK S. BILLINGS,
Director Patho-Biological Laboratory, University of Nebraska.

SIR: You probably already know that the Commissioner of Agriculture has appointed a 'Board of Inquiry' concerning swine diseases, naming: Prof. Bolton, of the University of South Carolina; Prof. Burrill, of the University of Illinois; and Dr. E. O. Shakespeare, of Philadelphia, as members thereof.

"You probably have also learned that the two principle subjects which this Board are directed to inquire into are:

(1.) The facts and claims concerning swine diseases advanced by the Bureau of Animal Industry at Washington.

(2.) The facts and claims concerning swine diseases advanced by Dr. Frank S. Billings, of Nebraska."

It is easily to be seen that according to the above I could have had no idea that ungentlemanly and unethical observations as to my methodic were to be resorted to.

Even their instructions did not order them to do any such unmanly work as is to be seen from reading them:

U. S. DEPARTMENT OF AGRICULTURE,
COMMISSIONER'S OFFICE,
Washington, D. C., November 27, 1888.

SIR: I inclose with this an appointment for you as a member of a Board of Inquiry, the other two members of which are Prof. William H. Welch, of Johns Hopkins University, and Prof. T. J. Burrill, of the University of Illinois. The Board will convene at the Department of Agriculture, Washington, D. C., on December 12, and decide upon the plan of investigation and the methods to be employed. The details of this investigation will be left to the Board, without instructions or interference on the part of the Department, but all the facilities of the Department will be placed at its disposal.

I desire that the investigations of the Board will determine the following points:

(1) If the diseases of swine investigated by the Bureau of Animal Industry were properly described in the reports for 1885, 1886, and 1887, and if they were caused by the germs mentioned in connection with them, and if these germs were properly described.

(2) To what extent were these descriptions of the germs original, and to what extent had they been antedated by other correct descriptions and by investigations which would *demonstrate* their etiological relation to the diseases of swine, and particularly to the diseases as they exist in the United States.

(3) Is the disease which has been investigated by Drs. Billings and Roberts, in Nebraska, identical with one of the diseases described by the Bureau of Animal Industry, or is it different from both of them? Are their descriptions of the disease and the germ correct? Do their investigations show that the conclusions as given in the Bureau report are incorrect? Have any facts been established in regard to the swine diseases of this country by these investigations which differ materially from the conclusions given in the reports of the Bureau of Animal Industry?

(4) To what extent is Dr. Detmers justified in his assertion that "Dr. Salmon's *Bacterium Suis*, discovered by him in 1885, as a substitute for his *micrococcus*, has nothing whatever to do with swine plague. It is a septic germ, readily kills rabbits (*cf.* Bulletin of the Ohio Agricultural Experiment Station), and causes septicæmia, but has no connection with the disease in question?" Has Dr. Detmers published the details of any investigations which demonstrate the etiological connection of any microbe with an infectious disease? If so, does the microbe he has discovered differ specifically from both of those described in the Reports of the Bureau of Animal Industry?

Please make such suggestions as may occur to you in the course of your investigations in regard to the proper method of treating and preventing these diseases. The report of the Board should be submitted to me on or before April 1, 1889.

Very respectfully,
NORMAN J. COLMAN,
Commissioner of Agriculture.

DR. E. O. SHAKESPEARE,
1336 *Spruce street, Philadelphia, Pa.*

It will be seen however that this course was decided upon among themselves.

In fulfillment of the object of their commission, as explained by the accompanying instructions, the Commissioners met at Washington during the week of last Christmas and organized by the election of Dr. Shakespeare, as chairman, and Prof. B. Meade Bolton, as secretary. They sketched out a plan of work as follows:

(1) Examine methods of observation and research pursued in the Bureau of Animal Industry at Washington.

(2) Examine diseased hogs furnished by the Bureau of Animal Industry, making special endeavor to find the two diseases described by the Bureau authorities and the two germs claimed by them to be the cause of the respective maladies.

(3) Visit South Carolina for the purpose of examining into the nature and cause of epidemic diseases among hogs, prevalent there.

(4) *Visit Nebraska for the purpose of examining the methods of Dr. Billings and the disease upon which he was at work.*

There must have been some reason for this peculiar change of base on the part of the members of the "Board" and this departure from the tenor of their instructions.

The question is what was it?

This brings us both to the point from which we started, and which only excuses their degression, viz.:

The Proper Method of Seeking Specific Bacteria.—The work "specific" is purposely used. As medical investigators we have no especial interest in bacteria *per se*, only as the specific cause of specific diseases. And again, as to lesions, from the patho-etiological point of view we have first to ascertain only the specific lesion due to the specific germ and there seek it. Having once completed this task then, as pathologists, it is time to give our attention to mixed infection, or invasion, and secondary, or complicating lesions.

Honestly I do not think this opinion is open to any criticism whatever. On the other hand because I have vigorously advocated it and because I have criticised the, to me, absolutely unscientific methods employed by come-outers of the Koch school, and further, because it was supposed Koch's immense egotism had been somewhat ruffled at my criticisms and that he would support the government investigators if told in the report that they were simon pure followers of his, while I was a sort of bastard parasite departing from the rule of three methods laid down by Koch and not bowing the knee in humble servitude to the Great Baal of German Bacteriology, that they would get his authoritive support thereby.

The absurdity of the principle advocated by these men is well illustrated by a remark of Sternberg's regarding his fitness to investigate the yellow fever. He said, "had he been thoroughly acquainted with all the germs infesting the intestinal canal of healthy individuals he would have been better fitted to enter upon his investigations."

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To any such assertion, I answer that such knowledge would not help an investigator an iota, if he was thoroughly up as a technician with the general principles for the use of solid and fluid media as introduced by Koch; whether he got his knowledge at the fountain head, or acquired it in any other manner makes no difference.

If Sternberg had said, had he been fully acquainted with all the lesions met with in the yellow fever, and been decided as to what was the specific lesion, where the germs put in their exclusive and primary work, and there sought them he would not only have shown he was fitted to investigate, but have been successful as well. Now I emphatically assert that the point raised against my methodic by the Board was not only unjust and misleading, but that the question at issue had not then and has not now anything to do with either Koch or his methods.

It is a pathological question entirely.

It is but justice to myself, and will be equally instructive to young men and neophytes in the field of bacteriological work, to state how I did and do work, and how my methods were pursued in Nebraska. In this regard surely, a little egotism may be pardonable. With the exception of the prior discovery of the germ of Swine Plague by Dr. Detmers—1877-80—and a wonderfully accurate description of the same according to the knowledge of his time and the means to work with at his command, I think I can claim the honor of being the only American who has discovered a specific germ of a specific pestiferous disease, and worked it completely out without any manifest weakness in the results. Not only did I rediscover and do this regarding the germ of Swine Plague, but also with equal success in the Texas Cattle Disease, the Corn-Stalk Disease in Cattle, and, so far as I could go with alcoholic material, yellow fever also. These results justify me in speaking as "one having authority" in this matter. Have my opponents any claim to speak with any authority whavever? The government investigators have never made one single discovery of this kind. They did not even priorily discover the germ of their second "Swine Plague," for Prof. Welch, of John Hopkins, did that, though for some peculiar reason he has not been man enough to claim it, but has allowed his rights to be monopolized by the government workers.

The reason, as is to be seen, why my methods were not correct, was that I had been successful in discovering germs of specific diseases and done more work than all others combined in this country, and because I had eventually learned by experience to rely upon the spleen to obtain my cultures in Swine Plague, the members of the Board of Inquiry assumed I had never used any other organ in my investigations.

There has never been a particle of evidence of a conclusive character produced by either the government investigators, the members of the Board, or Prof. Welch, that this second "Swine Plague" is a plague at all, or anything else but a secondary invasion of some accidental germ. According to my reading, they have given no evidence that it is even a local infectious disease *sui generis*, as all attempts to produce it by subcutaneous injections have thus far failed. In fact Welch admits all this when he says in a late bulletin from John Hopkins, "*it is not clear to us what role is to be assigned to the 'swine-plague bacilli*' (it should be stated that these persons all call the real swine plague "hog cholera") *in the natural infections which we have studied.*" "The fact that experimentally (by the intra-pulmonal injection of 8 or 9 (!) c. cms. of a bouillon culture, an amount by which any organism finding suitable conditions of development in the lungs ought to kill even a hog. B.) the swine plague bacillus is capable of causing extensive pneumonia and inflammation of the serous membranes, and that epizõotics occur in Germany with these as predominant lesions, without intestinal disease, suggest that this organism which is apparently identical with that of the German *schweine-seuche*, is also the cause of a similar disease in this country. (Welch should have stated that there has been a vast deal of difference in the virulence between the two germs, when he admits that the German germ causes pulmonary lesions only. But when he admits that he is in open contradiction to the government authorities and the Board of Inquiry. B.) "We are not, however, aware," continues Welch, that any swine epizõotic of pneumonia, *without any intestinal lesions, and with the sole presence of the swine-plague bacillus has been observed in this country*, although cases of this description occur scattered in epizõotics of hog-cholera with intestinal lesions." "It is possible that the swine-plague bacilli are frequently present in the mouth, air passages, or intestines of healthy hogs analogous to the frequent presence of the micrococcus of sputum septicæmia and of pneumonia in the mouth of human beings, and that in the *mixed* infections which we have observed, the widespread dispersion of the swine plague bacillus *is due to secondary invasion following infection with the hog-cholera bacillus.*"

I can now prove that it is not a cause of disease in swine in any specific sense.

There is the real "milk in the cocoanut." This "swine plague" is neither a mixed infection or an invasion, and yet, upon such a basis, the great pork-raising interests of this country have been condemned in the eyes of the whole world by the government investigators and their subservient tools.

Had such an alarming sensation been sprung in human medicine upon such evidence, what would have been the verdict of the profession?

It will be observed that in the above quotations Welch admits that cases of pneumonia do occur in hog cholera without intestinal lesions, and he admits the same in another place in this bulletin. This condition of lesions is extremely common in the swine plague proper, hog cholera, as I have shown in my report and seen in an experience extending over 1,500 autopsies. In fact by subcutaneous inoculations of but 1 c. cm. of the genuine bacillus, I have more frequently induced pneumonia than the intestinal lesions and in a very large number of experiments. Only recently I had five such cases. On the other hand, the Welch-Government Swine Plague bacillus is by no means the only micro-organism which causes secondary pneumonia of an invasion—mechanical-type in the real swine plague. I have isolated a number of such, but never had time to completely study or describe them. They are invasive, however, and do not produce infection. It should be understood that in all specific septicæmiæ, such as swine plague or typhus abdominalis, especially when somewhat prolonged in their course, that there are extreme complications of the parenchyma of the organisms, the muscles, the dense glandular organs and the

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heart, causing more or less extreme reflow of the blood, or better back-pressure, to the point of least resistance in the circulation, the lungs, which, with a weak heart, leads to hypostasis and serous effusion in the lungs and smaller bronchioles. Blood serum and the temperature thus offered cannot be excelled as conditions favorable to the development of any adventitious germs which may be present in the delicate bronchioles at such a time, if they find the media suitable, and the swollen and engorged condition of the mucosa, with the submerged condition of the cilia, are certainly not favorable conditions to the normal action of the latter; hence, such foreign elements must remain stationary, and developing at such points, causing mechanical irritation and pneumonia. Whether they are specifically infectious or not is an entirely different question. In general, they are not in the invaded organism, but may frequently be found so in one or the other species of small animals used for experimentation. But such results have no necessarily specific value whatever in relation to the species of animals from which such organisms were originally derived.

These very clever investigators, however, failed entirely in discovering an adventitious invasive organism in swine plague, which does find its way into and develop in the lungs previously diseased and invades most of the organs and causes really specific lesions in the kidneys of a circumscribed hæmorrhagic character, due to emboli, composed of this organism, and capillary rupture.

A description of this germ may be instructive to these investigators and interesting to the general reader.

On Dec. 28, 1889, I inoculated a healthy pig, five months old, sub-cutaneously with 1 c. cm. of a fresh culture, first generation of the germ of swine plague (H. C.) in order to test its virulence, which I suspected was rather marked. It died Jan. 5, 1890. From the heart's blood, taken from the animal almost before its last struggles were over, with all necessary precautions, cultures were made, as well as from every organ in the body. With the others we need not trouble ourselves at present, but the cultures from the heart's blood grew rapidly, and while of a whitish color, still a difference in the shade could be easily observed, indicating at least two varieties of germs to be present; microscopic examination soon revealed the presence of the true germ, and an enormously large, round ended bacillus, the organism in question. It is about twice the size of bacillus anthracis, in every dimension, actively motile, with flagelleta on the free ends and sides, not spore bearing, multiplies rapidly by fission, does not fluidify gelatine but eats a cavity into it, not spreading over exposed surface, grows rapidly in ordinary room temperature. On agar-agar it presents a creamy yellow-brown lustrous surface, which grows darker with age, the mass being thick and viscid. On potatoes it develops in a buffish-white colony with markedly prominent and circumscribed edges. On white of eggs it presents about the same characteristics.

My time has been so occupied that I have not had opportunity to experiment with this organism. On the other hand the practical observation that in all cases where the small diffuse hæmorrhages have been present in the kidneys, giving them a spotted appearance, and that it is generally only in these cases that the so-called "button" lesions are present in the intestines and as this bacillus has always been found in the kidney, the hypothesis is justified that these organisms may be the cause of those intestinal lesions which have been mistakenly called "characteristic" of swine plague. It may not be out of place to call attention to the fact that no lesion can be justly called "characteristic" of a specific disease, unless it is present in every case. In swine-plague the blood-lesion is the only thing at all characteristic, and it is not even that without the demonstration of the specific microbe. The diagnosis, however, can be made from clinical lesions alone without a single exception. Were it not too much outside the purpose of this paper I would give a short description of some other adventitious germs which cause lesions in this disease, but perhaps it is better to leave them until time can be had to study their action more specifically.

Now, why did I finally go to the spleen in Nebraska to obtain my culture? The reason was purely practical. One single necroscopy of a case of genuine swine-plague is sufficient to indicate to any practical pathologist that the disease is strictly a blood-poison, a septicæmia, and that all the organic lesions are of secondary importance in seeking for its specific cause. During my early researches, however, every organ was used to obtain cultures, and not only every organ, but every and any part of any organ which from the least difference of shade or consistency would lead one to suppose some other organism might be found. Every kind of a culture was made, among them innumerable plate, but not Esmarch tubes, for I don't like those things except in emergencies. This is a matter of taste, however. I much prefer plate cultures where necessary. The result of all these examinations, extending over thousands, not hundreds, of cultures, demonstrates the correctness of my pathological conclusion, viz: *that pure cultures of the specific germ could be almost invariably obtained from the blood itself, and that essentially blood organ, the spleen.*

Not only was this done, but hundreds of animals, small pigs especially, were inoculated with pieces of all these organs, with the universal result that the disease was clinically invariably reproduced in the pigs, and where fatal or the animals were purposely killed, the one specific germ invariably discovered again. *I have no such failures to record of not finding the germ or in inoculation experiments, as has been the misfortune of other investigators. On the other hand, in no single case was I fortunate enough to find the Welch "bacterium of swine plague."* Now as to the spleen.

Nebraska is quite a large State and my investigations not only extended over a large part of it, but almost every week, and sometimes daily for several weeks, to distances twenty or thirty miles from Lincoln. To do the latter I had to use a horse and buggy. If Nebraska is celebrated for anything it is for constant high winds and extremely cold weather in winter and equally hot in summer and lack of shade. I have made autopsy on autopsy on the top of a prairie roll with the thermometer below zero in winter, and the sun boiling as if it were Sahara in summer, and the wind blowing a young gale and my horse standing by. Under such conditions the inoculation of tubes and sterilization of wires with a spirit lamp were entirely out of the question, and some method had to be discovered by which material could be safely

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carried to the laboratory and that kind of work done there. By carrying a quart preserve jar full of 1-1000 corrosive sublimate solution, in which had been placed a perfectly clean napkin, a supply of which was always at the laboratory, and at once opening the hog (let me say I always killed those from which I desired cultures, never using one previously dead for any but pathological observations) and removing the spleen carefully (after emptying the bottle over my hands and wringing out the napkin) I wrapped it at once in the napkin and put it in the jar and screwed the top down tight. I then had time to make my necroscopy and always carried a wide board for the purpose of laying out my organs. Experience soon taught me that in this way I could generally obtain pure and reliable cultures from the spleen after my arrival at the laboratory, as no chances for pollution were possible after it had been wrapped in the napkin and no cadaveric changes were possible before it. I thus obtained time to make a complete autopsy and to fasten the necroscopical lesions in my mind, which were at once recorded as soon as my cultures had been made from the spleen on my return. It is to be seen then, that after obtaining the necessary knowledge by most careful study of every organ in the most exact manner, I necessarily resorted to the only practicable method suitable to the conditions under which my work had to be done.

As I have said, this whole procedure had no more to do with Robert Koch or his methods, than with the man in the moon; but I do not think even the most exacting Koch-fanatic can possibly find anything wanting in the technique.

Let it be understood this part of the work is pathological, absolutely and entirely. The work was to seek the specific pathogenic micro-etiological organism of swine plague and no other. That was what we wanted to experiment with. I was studying swine plague only, with a crying demand for inoculative prevention only, and neither my patrons nor myself cared one iota for extraneous, adventitious germs until that question had been answered.

Therefore I say, and claim, that the insinuation of the Board of Inquiry as to my methodic was entirely out of place, cowardly, unprofessional and when understood, must react against those who made it.

The Faculty of the Jefferson Medical College, Philadelphia, have in contemplation the enlargement of their building and have secured several properties fronting on Walnut Street, west of Tenth, for this purpose. The proposed improvements will be made at once and the addition, when finished, will be used for class-rooms, operating-rooms, clinics and library.

The Certainty of the Doctors.—"But, Doctor, you said last week that the patient would certainly die, and now he is perfectly well." "Madame, the confirma- of my prognosis is only a question of time."—*Fliegende Blætter.*

Bob—"My dad's a squire and gets his name in the papers every day."

Tom (contemptuously)—"That's nuthin'. My dad took Jink's liver pills and got his picture in the paper."—*Pittsburgh Bulletin.*

Society Proceedings.

Chicago Medical Society.

A. E. Hoadley, M. D. ..... *President.*
Junius C. Hoag, M. D. ..... *Secretary.*
F. A. Holland ..... *Stenographer.*

Chicago, March 17, 1890.

The President, A. E. Hoadley, M. D., in the Chair.

Joseph M. Patton, M. D., read a paper on *The Treatment of Cardiac Arhythmia due to Disease of the Kidneys and Vascular System.*

The title of this paper is not entirely satisfactory to me, inasmuch as the therapeutical methods adopted are such as do not effect the heart directly, and while cardiac arhythmia is at times the most prominent symptom, it is in these cases symptomatic of trouble elsewhere, and does not depend alone on organic changes in the heart, even though such be present, still as these measures relieve the irregularity of the heart, the caption employed may be excused.

Cardiac arhythmia is a wide subject and I wish only to speak of that from which obtains through chronic disease of the kidneys, generally associated with more or less arterio-sclerosis, principally affecting the medium sized and smaller arteries.

The kidney and vascular changes are extremely interesting, but a thorough consideration of them is not the object of this paper. Three conditions have been described by Delafield, *chronic oongestion, chronic inflammation* and *chronic congestion.* The arterial changes consist in thickening of the middle coat of the vessels, which is more or less irregular.

These changes are found in persons of middle life or above, and are most often associated with chronic rheumatism or with a rheumatic diathesis.

These changes may or may not be associated with valvular lesion and their sequences. Arhythmia from the latter cause presents various forms, is not so spasmodic in character, and not so severe, unless it be in an advanced hyposystolic condition of the heart.

These patients are subject to spasmodic attacks of arterial contraction, which greatly increases the work of the heart, and it is at these times that the cardiac arhythmia presents itself. These attacks are characterized by partial suppression of urine, irregularity of the heart, dyspnœa, passive congestion of the lungs, oedemia of the lungs and all the signs of cardiac failure.

The urine of these patients may not vary much from the normal, the specific gravity will vary from 1,010 to 1,030, usually about 1,020. Albumen may or may not be found, as is also the case with casts, depending on the character and extent of the kidney lesion.

At the time of the attack the urine will be scanty and high colored, albumen will generally be found, also casts if the kidney lesion is far advanced.

In many instances our first acquaintance with the patient will be occasioned by the onset of one of these attacks, he may have been under medical care for other ailments and the kidney lesion escape attention, until an attack of arhythmia and dyspnœa, leads to investigation:

We find the patient with a more or less irregular heart, in mild attacks the rate may not be much in-

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creased, in severe attacks, especially when degeneration and dilatation of the heart has been obtained, the rate may be very much accelerated, and the heart gradually passes to a condition of asystole. In these unpromising cases when from the duration and progression of the heart and kidney lesions combined, recovery is impossible, the arhythmia becomes more pronounced until conditions of *delirium cordis*, and finally *tremor cordis* are developed precedent to a fatal termination.

As all manner of disease of the heart may be associated with chronic disease of the kidney, it is important to determine how much of the ataxia of the heart is due to a hyposystolic condition of that organ, and how much to an increased demand for work.

In those cases where the heart has undergone change as a result of chronic endocarditis, it is not always easy to place the responsiblity for the arhythmia; here failure of compensation which has arisen from cardiac disease, and its accompanying arhythmia, will be associated with ataxia of the heart from nephritis and arterial contraction, and to clearly define the relation of each form to the individual case requires considerable skill and discrimination, yet the success we will have with these cases depends on our ability to make this distinction.

Leyden, of Berlin, says that the condition of the heart muscle is determined essentially by the tension and frequency of the pulse, the character of the renal secretion, and the degree of dyspnœa.

This is true in conditions which apply to the heart directly, but in this form of arhythmia under consideration this would lead us to wrong conclusions and misapplied therapeutics, we must depend on physical examination of the heart for our information in regard to the condition of the heart muscle, and on such information will depend the exhibition of therapeutic measures directed toward the heart.

If actual failure of the heart muscle is not concerned in the ataxia, then heart tonics are not indicated, and may be harmful. The most difficult point as has been said, is to determine the exact indications for their use.

The dyspnœa may be from cardiac asthma or from diminution of breathing space through congestion and œdema, generally from the combination of these two causes. It is labored in character and is at times extremely distressing. Œdema of the extremeties may be present, but is not constant, even in those cases which show some passive congestion of the lungs.

Gastric disturbances generally accompany these attacks of arhythmia and is apt to be caused or aggravated by constipation.

For arhythmia due to disease of the kidneys and vessels, the necessity is not to force the heart to work harder, but to give it less work to do. This end is gained by increasing the function of the kidneys, and by lessening the tension of the arteries by dilating them. The dilatation of the vessels attains two objects, by furnishing a larger channel for the blood it diminishes the work of the heart, and thus, by extending the force of the heart, it allows the vis a tergo of the heart to reach the kidney circulation and diuresis is improved, with the elimination of materials, which by their retention in the circulation may either directly irritate the vessels or may influence them directly through the nervous system. In whatever manner the vascular influence may be produced, a diminished tension cannot be sustained unless the function of the kidneys is carried on.

Of the various medicines used to produce vascular dilatation, opium has been most serviceable to me. Nitrite of amyl, tri-nitrine, chloral hydrate and the various other drugs used as vaso-dilators, are too transient in their effect; they may be useful temporarily in urgent cases, but not much permanent benefit can be obtained from their use. The bowels should be kept free, the diet light and easily digested, and attention should be given to the condition of the stomach. I have found Husband's magnesiæ useful in antagonizing the constipating tendency of opium, when the latter is used.

Such special dieuretics as are best adapted to the individual case should be employed. I have generally employed nitrate of potash and buchu, as this combination has proved satisfactory.

The following cases may be of interest in this connection:

Mr. T., æt. 40, rheumatic history, had been under my care about a year for organic disease of the heart. Mitral stenosis, slight mitral regurgitation, dilatation of left auricle, moderate hypertrophy of right ventricle. Heart constantly irregular from character of heart lesion, could not bear digitatis, but improved on strophanthus, iron and anti-rheumatics. He had always been able to come to my office to see me. I was called to see him one evening; found him sitting in a chair unable to lie down; great dyspnœa, heart so irregular that rhythm or pulse-rate could not be determined; urine scanty and dark, contained albumen; some congestion and œdema of posterior inferior portions of lungs—left side particularly.

Gave him citrate of potash and caffeine, which is particularly recommended by Dujardin Beaumetz in such conditions of the heart. No relief.

I then gave him five drops of tincture of opium, with nitrate of potash and buchu, every four hours; also twelve drops of tincture strophanthus three times daily. This was followed by immediate improvement. This treatment was continued as the indications required, and in a few weeks afterward he walked a distance of two miles to my office.

In this case there was the arhythmia due to the spasmodic attack of arterial contraction added to that usually present, and due to the organic changes in the heart.

In the fall of 1889, I was called at midnight in consultation, to see Mrs. T., æt. 55. She was suffering from severe dyspnœa. The heart was irregular, hypertrophied, degenerated and slightly dilated. Its action was weak. The lungs were slightly œdematous, and a small amount of fluid in the pleural cavities, a few ounces of which had been removed in an attempt to relieve the dyspnœa. The urine was scanty, had not been recently examined for albumen, as her physician had not apprehended serious trouble from the kidneys.

She was given morphia and diuretics. The urine showed quantities of albumen. She improved sufficiently in a week or ten days to be about the house, the dyspnœa being immediately relieved so that she could rest quietly.

The kidneys, however, were so seriously compromised as to be unable to perform their functions. She gradually developed uræmic coma and died in three or four weeks.

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In February of this year, I was called to the country in consultation to see Mrs. R., æt. 60, a sufferer from chronic rheumatism, having but partial use of her lower extremities. Found her suffering from dyspnœa, unable to be out of bed, and obliged to assume a sitting posture most of the night in order to breathe. She had just recovered from an attack of la grippe, characterized by a severe bronchitis. The heart was very irregular, hypertrophied, but the muscle was in fair condition. The urine was scanty, dark and contained albumen. She was given nitrate of potash, buchu, and five drops of tincture of opium four times daily. A week later her physician wrote me that she was up and about the house.

About four weeks since, I was called to see Mrs. O., æt. 70, of a neighboring city, who had come to the city for treatment. She had been suffering for a week from severe dyspnœa, and had been treated for asthma without relief. She was unable to lie down or walk across the room. Very somnolent, stomach irritable, heart very irregular, slightly enlarged, but otherwise in good condition. Lungs œdematous, legs quite œdematous, one having been moderately so for years because of varicose veins.

Urine scanty, and containing small amount of albumen, and no casts. She was given diuretics with five drops of tincture of opium, four times daily. Stomach quieted, bowels kept open, fed on milk and beef peptonoids. In two days the albumen had disappeared from the urine, dyspnœa relieved, pulse considerably improved. In four days could sleep quietly all night, œdema of feet and lungs had disappeared, pulse perfectly regular and of good volume, could go down stairs to hotel table for her meals. She returned home at the end of a week, and now, at the end of a month, writes me that her health continues in a very satisfactory condition.

Dr. Frank Billings made some remarks criticizing the paper.

Dr. J. M. Patton: "In reply to Dr. Billings' perhaps very just criticism, I would say, that it was not my intention to consider the treatment of arhythmia in general. Arhythmia arrises from a great many different causes, and its treatment depends entirely upon its cause. It is merely a symptom. Arhythmia arising from organic disease of the heart, or disease of the larger arteries, would demand a very different therapeutic from the form of arhythmia under consideration, to-night. Nervous arhythmia would require still another line of treatment. As far as the drugs to be employed are concerned, it makes no difference as long as you can produce the desired effect with safety, just which one is employed. Opium has been most serviceable to me because those cases I have treated have been those in which opium seemed to be indicated, and it acted satisfactorily. According to Gubler and other authorities, opium is a cardiac stimulant. In regard to the use of veratrum viride: while in certain well selected cases it might be useful, in the majority of cases of the form of arhythmia under consideration, it would not be safe. The chronicity of these cases, and their association with organic changes in the heart, degeneration of the muscle with dilatation, and the fact that it is not always possible to definitely estimate the exact amount of integrity possessed by the heart muscles; would make the administratiou of veratrum dangerous, as being to depressing to the heart itself. Opium relieves the tension of the vessels without cardiac depression, and therefore allows the utilization of the entire pumping force possessed by that organ.

As far as the diuretics are concerned, I have no preference. I used nitrate of potash and buchu, because I thought they would act nicely, and they did. Any of the diuretic salts or vegetable diuretics may be employed, according to the indications presented by the individual case.

The therapeutic indications I wish to bring forward in the treatment of this form of cardiac arhythmia are, first, to aid the heart, not by stimulating it especially, but by removing the obstruction to its action, i. e., the contraction of the arteries. Second, by the above means, and by the administration of diuretics, to improve the function of the kidneys."

Exhibition of New Surgical Pump.

Dr. Elmer Lee: Mr. President and Members of the Society: The pump which is held in my hand represents a new application of mechanics to an old principle. As long ago as 1856, and even before, I find a record of the application of a moving roller to an elastic tube. It is the principle on which the modern rotary surgical pump is constructed. Again, in 1867, I find in Germany other applications of that principle. But the application which has interested me most of all is that of a Frenchman in Paris, who, in 1870, discovered the same principle, as he thought, for the first time. He recognized the principle in the peristalsis of the bowels, and applying it to mechanics, produced a useful but imperfect rotary pump. The instrument was afterward improved to some extent and put upon the market by a Paris instrument manufacturer. It was called a blood transfuser. Very little came of it. This Frenchman clearly demonstrated the principle of a moving roller to an elastic tube and some of its uses in medicine. An account of his invention was published in Paris in the Year Book of the Review of the Progress of Mechanical Sciences for 1870-71.

My first knowledge of a rotary pump for surgery was the pump that has been so extensively brought to notice, the invention of Allen, an attorney of Grand Rapids, Mich., in 1887. But it has seemed to me to be taken directly or indirectly from the surgical instrument of French make that I have just mentioned.

What is claimed as the result of my thought—and it is the thought of a great many weeks and months—is a pump that is perfect and simple. An instrument that may be instantly taken apart for the purpose of cleaning or repairing it, and so simple in construction that any one can use it.

Taking it up in sections, it consists first of this cup, three inches in diameter and one inch deep. The cup is drawn up by a die, thus giving the minimum of lightness and the maximum of strength. From the center of the bottom of the shell is a steel stud, which is the axle upon which revolves the hub. The hub carries at its top opposite arms, extending as far out as the rim of the cup. Toward the outer ends of these arms are slots through which project the upper or free ends of spindles. The spindles, one for each arm, are made of tempered steel and made long enough to carry a roller at their lower end, one inch long, while the upper or free end of the spindle projects through the slot in the opposite arms. The

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free end of the spindle is threaded for a burr. A third arm extends out from the top of the hub at right angles to the opposite arms to form a handle. To complete the mechanism, a circular plate, a little less than three inches in diameter, fits over the top of the hub and lays directly on the arms and handle. In this plate are two slots of eccentric shape, but with the throws or outward curves in opposite directions. The curved slots extend nearly to the edge of the plate. The circular plate, with its two equal slots curved in opposite directions, is the key to the mechanism of my invention. For by this simple and unique arrangement of mechanics the spindles are suspended and the rollers are made to press with equally graded force on the elastic tube of whatever size and quality.

The details of the construction have now been explained to you. The few pieces and simplicity of mechanism you have just seen. The perfect adaptation of the mechanical arrangement to produce collapsing pressure of a moving roller to an elastic tube, is that to which your attention is next invited.

In contradistinction to every other pump of similar construction, a short tube of *pure* India rubber, a foot long, is used inside of the shell. The tube is preferably one-half inch in diameter, the surface of which has the finish and polish of a Tiemann soft rubber catheter. The tube lies against the inside of the rim of the shell through a little more than one-half its inside circumference. Instead of a circle, the tube forms a semi-circle, a curve instead of a loop. The ends of the tube pass out through circular openings in the sides of the shell. To put these loose pieces or parts lying on the table together again, it is done in this manner. The hub, from the top of which extends the opposite arms and the handle, is held in the left hand; with the right hand, the eccentric slot plate (either side) is placed on the top of the hub, with its under surface resting on the arms and handle. Next, the free end of one of the spindles (either one) is inserted from below up through the slot in one of the arms, and through the slot in the overriding slot-plate, and one of the burs (either one) screwed down gently. The other spindle, in the same manner is placed in the opposite arm. The hub is next slipped over the axle. A single nut or burr, interchangable with the ones used for the spindles, on the end of the axle holds the hub in place, and consequently the entire mechanism. We next thread the rubber tube through one opening in the side of the shell and out at the counter-opening on the opposite side. The pressure of the rollers against the tube is regulated so as to collapse the tube completely at the point of impingement of the roller against it. The pressure is applied and withdrawn by rotating the slot plate on the hub, which is its axle, either to the right or left, as the case may be. When the slot-plate is rotated to the required pressure we would screw down tight the burrs on the ends of the spindles. The rollers are thus set according to the nature and thickness of the tube. The spindles are immovable as if the mechanism were of one solid piece when the burrs are set. Should the pressure of the rollers not quite bring the tube-walls together, we would untwist the burrs a little and rotate the plate a trifle more. The clamp would next be laid against the back of the shell and fixed in the position desired. The pump is ready and may be rigidly clamped to a chair or the edge of the table.

Another feature of difference by comparison with other pumps is the manner in which the tube and accessories are connected. The length of the tube inside the shell is one foot. To each end of the tube projecting through the opening in the sides of the shell a section of tube a foot in length, by preference of rubber of superior quality and finish, is joined by a universal connection of hard rubber. The connection is in all cases made without resort to wire or string to insure a tight joint. The whole length of the tube is now a little more than a yard long, and no instances have occurred to me duriug a use of more than a year, in which a longer reach of tubing would have served better than the length of one yard. The reason for making the tube in sections of one foot, are three:

First, the avoidance of coiling or twisting the tubes in returning them to the apartment in the case.

Second, convenience and economy in replacing a damaged or septic tube.

Third, for aseptic and antiseptic reasons.

The suction produced when the rollers are revolved against the tube exerts a vacuum force equal to a column of mercury twenty-eight inches high, which is demonstrated in your presence. At the same time a forcing power is created which would far exceed any demand that could be made upon the instrument in any department of medicine or surgery. The instrument need never be strained to do its work, it is powerful even beyond what is required. A gentle treatment will make it yield its force adapted to varied useful purposes. The accessories which have been devised by me for aspiration, evacuation and kindred uses are different from ordinary forms aud some of them unique. Those for dilatation, distension and irrigation also have features of special adaptation. The time is too limited to-night to describe the accessories.

Sensible of the value the profession places on aseptic instruments, it has been my first purpose to determine the details of construction of my surgical pump strictly in conformity to rules of asepsis. The value in real practice of the foregoing statements made in the presence of the society to-night are sustained by use of the instrument during one year.

Dr. Weller Van Hook read a paper on *Retained Fœtal Bones.*

Mr. President and gentlemen:

In presenting for your inspection this specimen from the body of a sow, I may be permitted to cite the following anatomical points from Chauveau. (Anatomy of the Domesticated Animals, p. 887.):

"The *ovary* of the sow has a lobulated aspect like the ovary of birds. This appearance is due to the ovisacs, which, when they are well-developed, project beyond the surface of the ovarium, instead of remaining encysted in its stroma. The oviduct is less flexuous, but its length is proportionately greater than in the other species. The body of the *uterus* is short, but the cornua are very long and folded, and float among the intestinal convolutions. Its cervix does not project with the vagina and the cavities, vagina and uterus are continued into each other without any marked limit between them. The mucous membrane is very loose, soft and fine to the touch, and its surface is gathered up into numerous folds of various forms. The broad ligaments resemble the mesentery and the

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cornua join the fallopian tubes without any very perceptible limit."

The animal, from the body of which this specimen was obtained, was suffering from a severe form of septicæmia, which, I believe, was regarded as swine-plague. The bacteriological examination of the blood, by Dr. Frank Billings and Dr. Bayard Holmes, did not, however, bear out this presumption. At the *post-mortem* examination, besides many visceral lesions, the left horn of the uterus was found to contain two fœtal pigs. The soft parts were in a state of advanced decomposition, the bones being for the most part disarticulated. Some parts of the skeleton had been carried to a distance from the chief masses of fœtal tissue, by uterine contractions.

The wall of the uterine cavity, especially of the left horn and of the body, is in a state of active inflammation, as indicated by a purulent discharge and by visible dilatation of the blood-vessels. The left ovary contains a large abscess cavity.

An almost intolerable stench proceeded from the specimen, when fresh, indicating indisputably the presence of saprophytic microbes preying on the soft fœtal tissues.

A bacteriological examination of the fœtal and uterine tissues gave abundant cultures of the yellow pus microbe, but not of the saprophytic bacteria. The odor, which was present at the original examination, nullifies this result so far as the saprophytic bacteria are concerned, since the pus microbe does not generate odoriferous products.

The presence of these skeleton remains, so long after death of the fœtus, is to be explained, I believe, by assuming the existence of uterine inertia, due to severe septicæmia from which the animal suffered. Fœtal death, also, was no doubt due to the mother's condition.

Dr. Holmes: I think one fact that Dr. Van Hook has stated will somewhat mislead the society. This was a hog which was sent to Dr. Frank S. Billings to determine whether it had cholera or not, but for him to conduct his experiments upon. I happened to be at his laboratory when he made the post mortem. He killed the hog when I telephoned him I was coming, and when I got there the animal was still warm. The skin over a large part of the body and the edges of the ears was dead and peeling off from capillary embolism, occurring at the height of the disease which had already passed. The animal at the time it was killed was able to walk and eat, so that probably it would have recovered. I saw cultures made from the heart, lungs, liver, spleen and mesentary glands, but they produced nothing. Although I repeated the cultures myself, nothing whatever grew from them, but from this pus cavity in the ovary and the retained bones of this fœtus in the uterus, there was an abundant growth of suppurative bacteria. I speak of this because I think Dr. Van Hook gave the idea that the hog died of the disease.

Dr. Weller Van Hook: I am much obliged for the statement of Dr. Holmes; I was somewhat misled in the matter perhaps. The specimen has been of interest to me on account of the fact that I some time ago had an opportunity of examining a somewhat similar case of retained fœtal bones in the uterus of a sheep, and my object in presenting this case to the society to-night was because such reports are not very common, and I think for the sake of the study of that particular branch, every case that comes under observation should be reported.

CHICAGO, April 21, 1890.

Dr. Frank read a paper on *Brain Surgery*.

Dr. Archibald Church: Inasmuch as this patient was under my care at an early stage of her mental illness I take the liberty of opening the discussion. When brought to us her father made no report of this injury which he subsequently dwelt upon at such length, and she was put down as an ordinary case of insanity of a subacute maniacal form. The disease ran along a very ordinary course and finally terminated in dementia. When I last saw her in the hospital at Elgin a few days before her discharge she was completely demented, a mere vegetable, incapable of reasoning or expressing an idea and paying no attention to demands upon her of any sort. At times she was uneasy and at times destructive, and one could reasonably say her chances of recovery were negative. The father, during the period of her residence there, came to us repeatedly with the story of her having injured her head in a low cellar way, but told conflicting stories about it, sometimes saying the head was injured on one side and sometimes on another. The matter of operation was brought up and considered very carefully but at no time were there any symptoms which pointed to a localized lesion or condition which seemed to justify operation. She never had any paralysis, or atrophy, or any of the general symptoms which point to localized disease of the brain, and the most searching examination of the scalp and outline of the skull would not lead one to suppose the brain had received a great deal of injury, if any. The father made a number of casts, as you have seen, and worked up the subject very carefully; a number of physicians were called in consultation and they were unanimously of the opinion that the conditions did not point to an operation. I felt at the time and subsequently that it would be a matter of great interest to have the skull opened. Her existence was of no benefit to herself or any one else and while it seemed improbable that she would receive any benefit from operative procedure it might serve to clear up the condition upon which the father insisted. I therefore heard with great pleasure of the fact that she had been operated upon by Dr. Frank. From unprejudiced people, those who had known her during the period of her residence in the hospital, and after her return home subsequent to the operation, I learn that the entire aspect of the case was changed for the better. I do not think that even her father claims that she was entirely restored, but from being one of the most helpless of mortals she came to enjoy a degree of health both physical and mental which enabled her to be useful to herself and family. This persisted for the greater part of a year. There is then, owing to this operation, or following it, to say the least, an enormous improvement in this case which otherwise appeared to be absolutely hopeless. It falls within the observation of most men who come in contact with the chronic insane that the rule is for the convolutions to be considerably atrophied upon post mortem examination, and this atrophy results necessarily in the pouring out of a large amount of cerebral fluid to prevent a vacuum, which accounts for the edematous condition the Doctor found upon opera-

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tion. It also falls within the observation of those who come in contact with this class of cases that not rarely an injury, a surgical operation of any kind, a run of typhoid fever, a phlegmonous process or something of that sort, results in great benefit to them mentally, and is sometimes followed by an apparent return to health, and sometimes permanent restoration results. The question is in this case should the improvement be attributed to the operative interference and the extreme effect it must have produced upon the general organization rather than to a specific action upon the brain? In the conditions I have mentioned the mental change is one of gradual growth; here improvement was noticed within a day or two and a remarkable improvement within the month; I am therefore inclined to believe that to the operation alone is due the good result.

It may have been that this effusion upon the surface of the brain, which to a degree is physiological, had, in this case, gone to that extent that is constituted a real barrier to the patient's recovering her reason or the convolutions resuming their normal function, and the relief secured through this operation may have been sufficient to bring about the improvement which has been reported. I hope the Doctor will operate again and that we may again see the patient. Lately, operations of this nature, while not done by Horsely for insanity, have been done by a few other operators for general paresis, and according to reported results, at times with great benefit. It may be that an entirely new field of operative treatment in chronic insanity is opening up before us, but then, on the other hand, it may not, and so it is obligatory on every one to scrutinize these new departures impartially and with a good deal of rigidity. I think we may congratulate ourselves upon having seen this case, because it is absolutely a new departure, and, fortunately, this time does not come from Germany.

Dr. D. L. Brower: Mr. President—I wish to express my thanks to Dr. Frank for his very interesting paper. I was especially impressed by the statement in this paper showing the great amount of handling that the brain was subjected to in this case and without detrimental effects. This toleration of the brain is one of the most interesting features of this case. As the reasons for the operation are stated in the letter, it is not necessary to go over them again, but of course I feel a great amount of gratification at the result, as does every one who is at all familiar with the deplorable condition of these dements. Another thing that impressed me about the case is the rapidity and the perfection of the surgical results. The perfect union which has taken place without any deformity is surprising.

Another thought that suggests itself, although not directly bearing upon this case, is the fact that we do not always see, as in this instance, such immediate results from operative surgery on the brain. I have had something to do with advising surgical procedures in other neuroses besides insanity, and it is very often the case that there is no immediate improvement which follows the operation; whereas, a little patience on the part of the friends and patient, may be followed very often by gratifying results. My attention was particularly called to this matter only a few days ago in ascertaining the condition of a gentleman upon whom Dr. E. Andrews operated for epilepsy some five or six years ago. For the first year or two after the operation there was but little benefit manifested, then improvement commenced, and this has continued until now the result is quite striking. The neurotic conditions that come from traumatism become, as we know, matters of habit, so that if the pathological lesion is removed the habit may continue, and recovery will only be complete when the habit of disordered activity is stopped.

In this particular case I certainly endorse the suggestion of Dr. Church, and advise Dr. Frank to try it again. Another operation can do her no harm and may permanently benefit her.

Dr. Frank: Should the trephining be done in the same place?

Dr. Brower: I should say yes, in the same place, because of the development of the epilepsy. Perhaps there is some trouble there due to the operation, and it may have been those convulsions that set going again this mental disturbance.

Dr. Richard Dewey: Mr. President, Gentlemen of the Society: I am glad of an opportunity to express my thanks for the instruction derived from the very interesting and valuable demonstration that Dr. Frank has given us to-night. I feel that however opinions may have differed in reference to the advisability of the operation, and however difficult it may have been to determine whether it was desirable or not, it would appear from every point of view to have been well worth doing, and the improvement secured is very gratifying and it is possible there may be still further improvement beyond what we expect now or have witnessed.

It might be a question with reference to the results following this operation whether they were, as has been suggested, the local effects upon the brain, or whether they were effects which would be produced possibly by any acute disturbance, either an injury or an acute disease. It is frequently observed among the insane that events of that kind produce a marked change in bringing on lucid intervals of greater or less duration but which are apt to be a little transient.

Dr. W. F. Coleman: Mr. President, I am exceedingly interested in the case, but I cannot add anything to it except perhaps in my department. Dr. Frank asked me to examine the eyes of this patient, but nothing at all abnormal was elicited except that she has very weak internal recti muscles. They have not more than a sixth to an eight the power they should have. The word hyperphoria puzzled Dr. Frank—and no wonder, for it is not even now used by oculists in general and is not received by any scientific body. I believe the nomenclature devised by Dr. Stevens is an exceedingly good one. If the muscles are not balanced in their power, this is called heterophoria. If they tend to turn in it is esophoria, if they tend to turn out—insufficiency of the external recti—exophoria. According to Stevens, insufficiency of the external recti muscles has more to do with general neuroses than insufficiency of the internal recti, which has to do particularly with ocular symptoms, or asthenopia. Hyperphoria is a tending upward of the visual axis of one or the other eye and is a condition which interferes with both adduction and abduction very frequently, and tenotomy of either the upper or lower muscle not only relieves the eye symptoms, but, according to Stevens relieves dementia, insanity, epilepsy, corea, &c,

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HORSLEY'S TREPHINING FOR INSANITY.

Dr. A. E. Hoadley: I should like to report a case that it may encourage operations on these desperate cases. Some ten or twelve years ago I was induced to operate upon a man who had two years before received an injury upon the top of his head, or rather below the top about at the confluence of the parietal with the occipital bone. Some months after the injury paresis developed. He could move with certainty any of his muscles but the great trouble was slowness of motion, and this was also very apparent in his speech; he would articulate with such slowness that it was difficult to get his words together so as to know what he was saying, and so slow were his motions that he was almost helpless and useless, but otherwise he was in good physical and mental condition. The surgeons had all refused to operate upon him; he told me if I didn't operate he would commit suicide, so I undertook the operation and took out four or five buttons of bone, making an opening perhaps 2 by 1¼ inches in the back part of the head. I think the buttons of bone were principally out of the occipital and along the suture nearly in the median line over the superior longitudinal sinus. I removed the buttons of bone and explored as far as possible but could find nothing but a little thickening of the bone where I removed the first button. I did not expect to find any injury of the brain, any tumor or brain disease or injury of the membranes, I was looking for bone trouble, but I did not find it. The man was somewhat relieved, he could walk out and go up and down stairs but very slowly. He was not satisfied with the improvement and one year after the operation he committed suicide by drinking an ounce of laudanum. I had an opportunity to examine his brain and it seemed to be perfectly normal. When I took off the calvaria I sawed through the internal occipital protuberance. I kept the upper part of the skull, and that portion of the internal occipital protuberence that split off with it is probably three-quarters of an inch long, and the portion left on the base of the skull was something like an inch long, and deviated a little to one side. I have since been sorry that I did not take out the whole of the protuberance and keep it as a specimen. I have the upper part of the skull yet, and the buttons I took out wired to it. I think the injury the man received probably induced this enormous development of the internal occipital protuberance which probably interfered with the motor apparatus. That is my explanation of the condition, and the reason the operation was not a success, was possibly because I did not remove the internal occipital protuberance, or the projecting part of it.

Dr. Holmes: Mr. President, a surgeon must always look very closly to the indications for operation, and it seems to me that in the third case reported it would be very difficult for Dr. Frank to give any indications for operating which was not a negative indication. He could say this person is not an individual of sufficient account to be considered, there is no intelligence and there is no reason to consider the life of this patient any more than he would that of a dumb animal, and therefore, we might for the sake of experiment operate upon the patient. But there was no hope from the operation, the time for the greatest development of intelligence in the patient had passed, and to remove the whole cranium would seem to me to be absolutely devoid of any hope of recovery. In the most friendly manner I must, from that standpoint, criticize the operation on the third patient. It seems to me there was no reason for operating, not an indication except a negative one—"the child was good for nothing as he was and he might as well have this done as not." I don't think a man should feel like that. The importunities of a patient's family or a patient himself should not weigh at all with a surgeon as to whether he shall operate or not. He must decide if there is a reasonable hope of benefiting the patient and that the chance of injury is small in comparison to the hope of good. I must criticize the use of drainage tubes in the second case. It seems to me that wound should have been closed up entirely. I believe the wound would have healed up just the same as in the first case. If I understand the case exactly, infection was brought in by the drainage. The drainage was not well chosen. If you use drainage in such a wound at all, it is better to use tubulary drainage, but you should not drain unless you are satisfied that there is or will be infection; if the wound is aseptic, don't drain, if it is septic, you can't drain too thoroughly.

Dr. Tilley: I wish to ask a couple of questions: One is relative to the difficulty that seems to be associated with the sphincters in these cases, and I want to ask if there is any definite center in the cortex that seems to have special control of the sphincters. I am somewhat interested in this on account of a case that was published in 1873, where the same difficulty occurred, but the injury here was rather in the occipital region; yet the same difficulty with reference to the sphincters occurred, and there was also considerable difficulty associated with the genitals generally. If I remember correctly, the same difficulty occurred in a case that was under Dr. Steele's care many years ago, where a bullet went partly through the brain; I think nearly into the occipital region, and was associated with a persistent priapism. That difficulty also existed in the case I referred to, and the reporter, Dr. Hughes, stated that it was of frequent occurrence in injuries to the brain in the occipital region.

Another question I want to ask is one of a casuistic character, and I am very glad Dr. Holmes brought up this subject. I have under observation at the present time a young man who has a history of a wound in the occipital region which, as far as calculation can be made, is situated exactly over the region of the cuneus. The cuneus is, according to cerebral topography, interested especially in the function of sight. This wound is situated on the right side of the head, and the boy is afflicted with left homonymous hemianopsia. The loss of vision in both eyes is absolutely vertical with the exception that it simply clears the point of fixation, which is always the case in well-marked cases of hemianopsia.

The question I want to ask is this: Given this condition—I can't go into the particulars now to show that it is a well defined case—are we justified in seriously and earnestly recommending an operation? The difficulty the young man labors under is the loss of half of the field of vision in both eyes. Of course the region it would be necessary to attack may be said to be a dangerous one, inasmuch as it encroaches upon the longitudinal sinus. However, there is one case on record where an injury occurred in that region and excessive hemorrhage from the longitudinal sinus

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seemed to have occurred, but the patient got well without any difficulty beyond the loss of this lateral field of vision, which is usually due apparently to the loss of brain substance. Are we justified, under these circumstances, in earnestly recommending an operation? I have done so, but I have not yet succeeded in convincing my patient of the desirability of having it done. Are we justified in a case, such as I have described, in urgently recommending an operation?

Dr. Archibald Church: Inasmuch as my name has been mentioned in connection with this matter of the vicarious action of the uninjured hemisphere, I wish to state that Horsely and Ferrier and a majority of the recent investigators in this field believe that every motor center is duplicated; in other words, that every motion is represented in both sides of the brain.

The objections that Dr. Holmes brought up, I wish to call to your attention. That line of argument has been used against every surgical innovation time without mind; it has been urged against laparotomy, yet now you explore the abdomen with substantial impunity, and indeed under some circumstances it is obligatory upon you to do so. In the case in question there were well defined grounds for operation. The child manifested peculiar movements in all the extremities showing almost conclusively a hyperactivity in all the cells of the motor cortex. The condition of the child, the fact that the parents were clamorous for operation and that there was no probable recovery for him unless operation was done, I think justified it. In extreme conditions desperate measures are allowable.

Regarding the case of Dr. Tilley, the symptoms can only be reasonably explained by a lesion in the occipital lobe. If this is clearly attributable to the traumatism, operation is justifiable, and in the presence of irritative or extension symptoms, to be emphatically urged. Hemianopia of several months duration never passes away spontaneously, and it is doubtful that an operation would improve vision materially.

Dr. D. R. Brower: Mr. President, I have nothing to say in the way of criticism of these most interesting and important cases, but I do wish to thank Dr. Frank for bringing them to our attention. The most interesting thing about them to me is the extent to which the brain can be manipulated by the surgeon without any seeming injury to the organ, and the successful recovery that follows these various operations. I believe in the great value of surgical procedures for the relief of nervous affections. I am gratified to find that the youug woman, with whose case I am somewhat familiar, has been still further improved by this second operation.

Dr. Archibald Church: Mr. President, I would say in regard to the case of this young woman, who was under my care for four and a half years, that since the second operation I have been able, upon seeing her two or three times, to note a material gain in her mental condition. There is no question that she is improved both mentally and morally since the last surgical interference. How much of it is to be attributed to the operation I am not able to decide.

Dr. Sanger Brown: I wish to say a few words in regard to the case of insanity operated upon, and to suggest to the minds of the members that very marked amelioration of symptoms often occurs in cases of chronic insanity from an acute illness, as typhoid fever. Although I was very much interested in noting the improvement in this case after operative procedure, I think it would be a mistake to lay too much stress upon the *brain* having been operated upon; and it would be a pity for the society to seem to indorse the view that insanity could be successfully treated in that way. I hope Dr. Frank will report the changes in the mental state of this case from time to time, as I think it would be of interest to follow it up. I remember of having a case of acute mania once of four to six weeks' duration in a lady at the climateric period who removed a window guard and jumped out, falling about thirty feet, and breaking three ribs. She immediately became sane, and has remained so since. So I think the vital energy that is brought into play from an operation or an acute disease like typhoid fever, often acts favorably on a chronic case of insanity, whether the brain is the seat of operation or acute disease or not.

Dr. A. J. Oschner: I wish to call your attention to a form of button which has recently been used and which will if it proves successful, be of value in relieving the deformity that we see in these cases. The button is of the shape of the Greek letter Ω (omega). An incision of this form is first made through the skin down to the bone, then the bone is cut through in the same form, then it is chiseled off at the base. You see it has the entire support of the skin and periosteum. It is laid back and the flap thus formed is protected and the operation is performed on the brain, then after everything has been done that is to be done, the button or flap is replaced and it will grow, for instance, like a scapula that has been raised up.*

Dr. D. A. K. Steele: Mr. President and Members of the Society—I can say but little except to compliment Dr. Frank upon the results obtained and observed in these operations. I was present at the second operation on the first case presented, and I was greatly pleased with the manner in which it was done. The technique seemed to be perfect. The method of controlling hæmorrhage by the interlocked stitch was a new one to me. It perfectly controls the hæmorrhage which from scalp wounds is usually exceedingly troublesome during an operation. It was interesting also to see the result of the first operation—the complete solidification of the bone buttons, and interesting to note the large amount of bone that may be removed and left out without damage, but with apparent benefit to the patient. Interesting also in that it shows that it is not material in trephining operations for the relief of these neurotic troubles, whether we replace the bone buttons removed after chipping them up, as McEwan advises, or whether the entire button or several buttons or a large square is removed. We know these three methods of operating have been followed by good results. This case adds very much to our knowledge of brain surgery.

In regard to the reason why we do not get any response to the faradic current, the explanation to the previous operations and damage to the arm centers or to the centers that were experimented upon, may

*Note. The method was first recommended by Julius Wolff, Archiv für Klin. Chirurgie, Bd. 4; later by Adam Kiewicz, Reports of Vienna Academy of Medicine, Dec. 13, 1888, and again by Wagner Centralblatt für Chirurgie No. 47, 1889.

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be the correct one; and yet, sometimes in first operations, we cannot get any response from the current, and the explanation has been made by Keen, of Philadelphia, that possibly that may be due to the action of antiseptic solutions, that they speedily paralyze the arm or leg centers; and even where, as in this case, no antiseptics were used, the action of the irrigation with hot water may also have the same paralyzing effect, so that to be of any service, these experiments in stimulating the automatic brain centers must be done immediately after the button has been removed, as soon as the dura is opened, before the brain has been acted upon by heat, cold or mechanical action.

Dr. George W. Webster: These cases are extremely interesting from a physiological point of view, that is, in regard to what we know as cerebral localization. There are three principal views held by the profession at this time in regard to this matter, one held by Monk and his school more especially, in which he claims there is no such thing as cerebral localization, his conclusions being based entirely upon experiments done upon animals, especially the dog. Then there is another school in which they claim that each of these centers can be mapped out with mathematical exactness, and the other school which claims that they cannot be mapped out with mathematical exactness but that choosing the medium ground between no localization at all and mathematical exactness, physiological experiments alone conducted upon animals, especially monkeys and so far as we have been able, upon human beings, would show that there is such a thing as cerebral localization—that there are certain areas of the brain which can be mapped out with a reasonable degree of exactitude and distinctness, and that these centers correspond to the opposite halves or parts of the body. There is nothing, so far as I know, that would indicate what has been alluded to to-night; that is, that one-half of the brain will in a *vicarious* way take up the function of the opposite half of the brain in case of removal of one-half but we have bilateral centers for *associated* movements. It is, however, a well known fact that the basal ganglia have a certain part in controlling the movements of the body especially those movements that have been learned, like walking for instance. A man in sleep walking, a somnambulist without conscious volition, without the cortex proper taking part, will walk and make perfectly co-ordinate movements. This fact is well known.

In regard to another point that was mentioned, that the muscles corresponding to these centers would not respond to the stimulus of the faradic current, I think in all probability, the explanation of Dr. Steele is correct. It has been shown experimentally in the last year by men who were interested in proving this point, that the cortex of the brain is irritable. The experiment was tried of applying a weak solution of cocaine to the cortex. If the experiment was tried of stimulating cortex before application immediately after exposing the brain, it resulted in causing a contraction of the muscles. If the *fibers beneath* this motor center were stimulated, this resulted in motion in the opposite side.

In regard to the indications for any operation of this kind, it seems to me that it hinges upon first, cerebral localization, which ought to be admitted because of the physiological evidence together with clinical observation, either *one* of which is sufficient to prove the truth of this theory. It is past the experimental stage and ought to be an accepted fact. Second, it would hinge upon the question whether we have such a thing as Jacksonian epilepsy, or whether the convulsions invariably starts from the part of the body corresponding to the irritated spot—that I think cannot be disputed. The theory of cerebral localization has been proven; that epilepsy can be caused by such irritating lesion must be accepted. The tolerance of the brain to operative interference is well known. Therefore, with a *tangible, palpable lesion* and with a *reasonable supposition* that that lesion is a *removable one*, such surgical interference is entirely justifiable. Without such indications *unjustifiable, criminal.*

Dr. J. J. M. Angear: Mr. President. We are satisfied that in operations upon inferior animals, when we want to apply an electric current we must wait a little before applying the current, for the animal to recover from the shock and then faradization will take place—not otherwise. This might throw a little light upon the difficulty under consideration. The next point that I want to bring up has not been mentioned, and that is that these areas are supposed to be psycho-motor, not simply motor. I think we can readily understand what is meant by that. The mind or the volition has starting points, and these are the localized points in the cortex which communicate to the motor centers and motion followed. This is the origin of voluntary motion. The involuntary and reflex motion originates in other localities. Now, then, if we place man or an inferior animal under the influence of ether we suspend that volition—the operation of the mind, if we may apply that term to inferior animals. The electricity being applied to the cortex takes the place of volition, and it is communicated then to the motor centers in the spinal cord, and we have action of the voluntary muscles. If we take that view of the matter, and understanding that the patient has undergone a surgical operation, that there has been a shock, and that may be the reason why there is no response, but by waiting a little time for the nervous system to recover from the shock, and then applying the electricity we may get a response. Bear in mind that there has been a shock that has suspended for the time being the physiological action of the gray matter in the cortex of the brain as well as the communicating fibers from the cortex to the motor cells in the spinal cord.

Dr. O. L. Schmidt presented a case of *Extensive Destruction of Head and Face from Syphilis, with exhibition of patient.*

Charles B., age 17. Father died in 1884, unknown cause; sick one and one half years. Mother died in 1889, of typhoid fever. Two brothers and five sisters are living. One brother and one sister dead, both about one year old, cause unknown.

Patient was well up to twelve years ago (his fifth year), when slight ulcers appeared on his lips. Patient says that he was told that it was caused by poison on a pipe-stem with which he used to blow soap bubbles. These sores disappeared. Three years later a sore on the eye appeared. From that time to this ulceration spread over the entire face and scalp; at times he was entirely cured, but through the carelessness and ignorance of his parents, he was at one time eleven months without treatment, and

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also the two years previous to his admission, August 19, 1889, to the Alexian Hospital.

At the time of his admission the whole anterior aspect of the face, most of the lateral aspects and parts of the scalp, were one large, ill-conditioned ulcerating surface. His bodily condition and nutrition were very poor. The nose had entirely disappeared. The lower jaw is drawn downward and fixed by cicatrices. The teeth project forward on account of pressure from the tongue. The anterior half of the septum has disappeared. The soft palate is partly destroyed and partly adherent to the posterior or pharyngeal wall. The left eye-ball seems to have been entirely destroyed, and is now covered by scar tissue. The right cornea is white and can distinguish light. Both eyeballs are gone. The ears are intact. Nothing can be found on the internal organs.

Dr. Robert Tilley: This patient was introduced to me by Dr. Brower, with the request to treat him as best I could. He had been treated by an oculist, who, I am perfectly satisfied, understood the case very well. The condition at that time was the ulcerated condition of the cornea, together with the general parenchymatous inflammation, affecting only the left cornea, but the inflammatory condition extending also to the eyelid, which, according to the best of my recollection, drew the eyelid somewhat upward, making an ectropion. After considerable effort, I succeded in arresting the complete parenchymatous and ulcerating condition of the cornea, and arrested, also, the inflammatory condition of the eyelid. The remedy that I found most satisfactory was iodide of potassium, associated with tartrate of iron. I tried both inunction, and the exhibition of proto-iodide, but none of them seemed to answer the purpose so well as this combination of tartrate of iron and iodide of potassium. Under this treatment the peculiar irritability of the boy disappeared; so much so that the mother was intensely pleased with the progress he made. I forgot to state that when the boy first came to me, the mother stated that he was so irritable when any of the children made a noise, or when the door was shut, or on the slightest provocation, she was afraid the child would go out of his mind. I had no hesitation from the first, in pronouncing it a case of inherited syphilis. I had an opportunity later on, of obtaining a demonstration of it. His father brought him one Sunday morning to my office, and after I had got through with the boy, he said: "Doctor, I have been troubled with severe headache, which has lasted for several weeks. I have had advice from two or three physicians, but it does not disappear." I said to the boy, "Charley, step into the other room." Then I said to the father, "I have no doubt whatever of the cause of the headaches, I am perfectly satisfied that you have had a chancre." "Yes," he said, "some ten or fifteen years ago." I told him that did not make any difference. This was a corroboration of what I had previously been convinced. I told the mother at that time that the boy was fairly well, that it was unnecessary to keep up the treatment for a certain length of time, but that the ectropion, or peculiar deformity in the eyelid, could never be remedied by treatment; it would be necessary to perform an operation in order to get rid of that difficulty. The mere mention of the term, operation, was sufficient to drive the mother away, and I never saw them afterwards.

I heard, however, through Dr. Brower, that they had gone to an optician, who simply said all the boy needed further was a pair of glasses. They put a pair of glasses on him, and in a short time a relapse of his condition occurred, and the next thing I heard was that he was being treated by Dr. Brophy, who came to me to inquire as to what I thought was the difficulty. I assured him I had never treated the boy for anything else than syphilitic difficulty, and had no doubt that was the true cause. I did not see the boy from that time until the present moment. I should like to hear from Dr. Schmidt the particular form of specific treatment that he has found to be most acceptable in relieving the condition.

Dr. Otto Schmidt: I am very thankful to Dr. Tilly for his elucidation of the subject; all further history had been denied me except what I gave. As far as treatment is concerned, he received nothing but iodide of potassium and corrosive sublimate, and particular attention was paid to his diet. Two of the children died in their first year, but the rest of the family, I understand, are perfectly healthy. The boy answers everything distinctly and rationally, and considering the fact that he has not been in school for five years, he is well informed on many subjects. He has a chum up at the house who is also blind, and the two are always together. The other boy has some sight and keeps him informed. He is comparatively happy and enjoys a good appetite, but of course he is only able to eat limited food.

CHICAGO, May 5, 1890.

Dr. C. T. Parkes read a paper on *Removal of Thyroid Gland for Goitre, etc.*

Dr. D. A. K. Steele: With the permission of the Society, I will present an additional case on this same subject—extirpation of thyroid gland. This young lady, Kittie B., aged 23 years, came under my observation about a year and a half ago, suffering from the symptoms so well outlined by Dr. Parkes, *i. e.*, gradually increasing dyspnœa, interference with the voice, frequent attacks of sore throat and a rapidly increasing hypertrophy of the right lobe of the thyroid. Medical treatment had been of no avail, and at my suggestion she submitted herself to an operation for extirpation of the right half of the thyroid gland, April 18, 1889. I was assisted in the operation by Drs. E. E. Babcock, Whitehead and Waxham. It is interesting in comparison with the cases of recent operation exhibited by Prof. Parkes, as showing the result about thirteen months after the operation. The technique of the operation was slightly different from that reported by Dr. Parkes. The line of incision was sigmoid, commencing on the right side just below the ear and curving to the left directly across the most prominent part of the tumor and then downward and to the right, so it leaves a straight and cicatrical line along the border of the sterno-cleido mastoid muscle.

In this case there was the same after-consequences as in the first case of Dr. Parkes, some suppuration occurring two or three weeks after primary closure, a suppuration followed by discharge of several ligatures through a little sinus. An immense number of ligatures were used. The main blood vessels were not only secured at the time of the operation, but each little blood vessel upon the surface of the tumor was secured with hæmostatic forceps and fifty or sixty silk ligatures were employed. The operation was

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practically bloodless, but required a good deal of attention to detail. A drainage tube was placed in the ordinary way and primary union resulted. A continuous suture was applied and then the ordinary antiseptic dressing. The only unpleasant consequence was the discharge of ligatures, showing that the silk had not been absolutely aseptic. It was such silk as we obtain at the instrument stores here, but not specially prepared by myself; since that time I have used greater care in the preparation of the silk and have not had cause to regret it. The tumor is softer and redder and more vascular, I think, than the tumors Dr. Parkes has shown. The young lady has gained some ninety pounds in flesh and expresses herself as feeling perfectly well, not having a trace of the old symptoms. You will also observe that the left lobe of the thyroid, which was slightly hypertrophied prior to the operation, has undergone atrophy and cannot be detected. Nothing more satisfactory could be desired.

Dr. George W. Webster: The cases reported by Dr. Parkes and Dr. Steele are of particular interest from a physiological point of view. Physiologists are not in accord in regard to the function of this gland and its function can only be learned by bringing forward all such cases as these. There have been many experiments made, especially upon the lower animals, but it is a well-known fact that dogs, especially, invariably die after this operation. The only exceptions to that are where one-half of the gland is removed and an interval of thirty or more days allowed to elapse before the removal of the other half of the gland. Under these circumstances the animals survive a considerable length of time. And where the healthy glands from a healthy animal are transplanted to a different portion of the body and allowed to grow, then the glands belonging properly to the animal can be removed without injuring the health, seeming to indicate that healthy glands transplanted in this way may take up the function of these glands. We know that in those individuals who are born without thyroid glands there is a condition of failure of development of the cerebrum, and in those cases where they are diseased there may be failure of development of the cerebrum. Horsely and others have transplanted the glands of the lower animals to those of man. In a French journal published the 15th of March an interesting case of that kind is reported, where the glands were removed and healthy glands from an inferior animal transplanted, which grew. The question is whether these glands, so transplanted will take upon themselves the function of the diseased gland, and the answer to that question we can only arrive at inferentially, as in experiments upon the dog. In that animal, where the gland is transplanted before the removal of the normal gland, the glands may be removed without injuring the animal.

Dr. Archibald Church: I wish to recall attention to the neurotic side of this operation, for the relation of the thyroid gland to the nervous system certainly presents something of interest. It is sufficient merely to mention cretinism and Grave's disease to substantiate this assertion. The theory has been advanced that metabolic process of the thyroid is to destroy a certain something inimical to the proper action of the nervous system, and on the other hand the contrary theory is advanced, that it elaborates something necessary to the proper function of the nervous apparatus. Be that as it may, it is not infrequently found that the condition denominated by Kōcher as cachexia strumapriva is dependent upon the complete removal of the thyroid gland. I recently had occasion to look up this subject and I found, according to the tabulation of the Clinical Society of London, 277 cases of complete excision of the thyroid, in 22 of which there was recurrence of the gland, and in these 22 cases no appearance of cachexia was manifest. In the remaining 225 cases no hypertrophy occurred and in the remainder a little more than one-third showed in varying degree, the cachetic condition alluded to. The mental symptoms varied from somnolence and a tendency to continually drop off to sleep to a great mental hebetude, stupor, coma and death. Some times all the features of cretinism minus the goitre were developed and more or less myxomatous infiltration was the rule. Again in 500 cases in which the gland was not completely removed cachexia appeared in only one per cent. These statistics are quite recent and sufficiently extensive, at least, to justify the deduction that, other things being equal, where a certain amount of the thyroid gland is left there is less probability of cachexia strumapriva developing. This seems to me an argument in favor of the less radical operation. I had the privilege of assisting two operations by Billroth, in which he ligated the four thyroid arteries. He records seven cases with four cures, one death, one recurrence of the thyroid enlargement and one result unknown. Sixteen such cases have also been reported by a German operator, fifteen of which were completely successful. It is pointed out, of course, that this operation, the ligation of the four thyroid arteries, is only indicated in that sort of goitre which is dependent upon vascular enlargement, in the angiomatous form, and of course would not be suitable to the calcareous or cystic variety. In the statistics I have been able to find the conclusion is reached that the modified operation is preferable, and I think this will bear thoughtful consideration.

Dr. D. A. K. Steele: Before presenting the two reports I had promised the society I will show a specimen which is a little unique, a small fibro-cellular tumor developed from the right labia majora of a young married woman. The tumor was caused, according to her statement, by an injury, striking the right labia against the corner of a sink or table and causing a little swelling. This tumor gradually developed from that injury and grew about a year preceding her marriage, and it existed for perhaps a year before her husband discovered it, when it had attained nearly the size you see here. The removal was exceedingly simple. It is pedunculated, as you notice, and it was simply transfixed with a double silk ligature tied in two parts then the little wound closed in with a single suture. I have two photographs here, one showing the unique appearance of this tumor dangling between the young woman's limbs, the other the appearance of the tumor just before I applied the ligatures.

PARTIAL EXCISION OF THE TONGUE FOR EPITHELIOMA.

John Wayte, of Morgan Park, Ill., a merchant aged 57, was brought to me Feb. 18, 1890, by Dr. C. H. Lodor, for consultation in regard to a foul ulcer of the tongue. He gave a history of some eight or nine months previously suffering from an ulcer on the lower border of the tongue, on the left side. It increased in

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size, notwithstanding skillfully applied local and general medication, and a diagnosis of epithelioma was made and the removal of the left half of the tongue advised. He went to the Presbyterian Hospital and was seen there by Drs. Graham, Parkes, McGlenehan and the house staff. On Feb. 21st, with the assistance of Drs. Graham, McGlenehan and Henkel, I removed the left half of the tongue. After anæsthesia, a long curved needle was passed around the base of the tongue to control hemorrhage, not taking the precaution to ligate the lingual artery, as should have been done. The tongue was split from the tip well back to the root, drawn forward and freed from the floor of the mouth with curved scissors, and then an incision made upward and backward so as to meet this and form a V. With the primary incision very copious hemorrhage from the divided lingual artery took place, which was controlled with long hemostatic forceps. The floor of the mouth was then cleaned out and all suspicious tissue removed; four or five teeth were extracted from the lower jaw. The inferior maxillæ was thoroughly curretted with a sharp spoon and bone gouge, then I thoroughly cauterized the floor of the mouth and bare surfaces of the jaw with the Paquelin cautery, destroying all surfaces that appeared suspicious.

The stump of the left half of the tongue was drawn forward and the right half permitted to retract so as to round out and maintain a fairly good contour of tongue, giving it a rounded tip by drawing forward the shortened left angle and the inner right half, bringing the two tips together and leaving the right half of the tongue considerably thicker than the left half. It was fixed in this position by interrupted silkworm-gut sutures. The wound in the floor of the mouth was packed with iodoform gauze, and the forceps tied so as to prevent the possibility of their becoming loosened or detached from the lingual artery. They were wound with strips of gauze and left undisturbed for three days, when they were removed without any hæmorrhage occurring. He was kept nourished by rectal injections. He was allowed to have ice in his mouth. The mouth was rinsed out several times a day with saturated solution of boracic acid. He made a rapid recovery. The third day the forceps were removed from the left lingual artery, but the iodoform gauze packing was not removed for five days, then fresh packing was applied. The wound rapidly cicatrized. I saw him to-day and heard him talk, and one would not suspect that half of the tongue had been removed. I hoped to have presented him to you to-night, but as the night trains to his house are inconvenient I was unable to do so. The result is an ideal one up to this time, and I trust it may be permanent.

EXCISION OF THE RIGHT SCAPULA FOR OSTEO-SARCOMA.

Richard Humphrey, a fruit-grower by occupation, residing near Benton Harbor, Mich., 30 years of age, married, called on me December 4, stating that about a year previous he had noticed a swelling on the right shoulder that had gradually been increasing in size. It gave him no pain or inconvenience, and he was just as able to do a full day's work as a year before. He knew of no cause for the growth except possibly a sprain of the muscles of the right shoulder, received while playing a game of base-ball some four years ago, after which he noticed the right arm and shoulder were lame for several days. During the last three or four months had increased more rapidly, until it was now about the size of a small orange.

On examination I found a firm, hard, resistant tumor occupying the supra-scapula fossæ, the point of attachment being just above the spine, from the upper to the internal angle of the fossæ. The growth projected upward and outward, encroaching on the acromian end of the clavical and dipping slightly beneath it within half an inch of the shoulder joint. Movements of the scapula were communicated to the tumor; the two were firmly united and a puncture caused exit of bright arterial blood. The sarcoma sprang from the upper internal border of the spine of the right scapula. I advised an early operation, including all the affected bone except its articular surface. The diagnosis and conclusions were verified by Dr. E. Andrews.

On December 9th, with the assistance of Drs. John and Geo. M. Bell and Dr. Winans, all of Benton Harbor, Mich., I excised the scapula with the attached tumor by means of a transverse incision along the spine of the scapula from the acromian process to its inner border, directly over the most prominent part of the tumor. This was bisected by a longitudinal incision midway from the middle to the external end of the clavical downward to a right angle with the scapula. The muscular attachments of the internal and inferior borders were rapidly divided, bleeding vessels checked with hæmostatic forceps after the tegumentary flaps had been made. The muscular attachments to the upper border of the scapula were similarly divided with blunt scissors three-fourths of an inch from the surface of the tumor after the muscles had been clamped with forceps. In this way the scapula was freed from all muscular attachments with the loss of a very small amount of blood. Silk ligatures were now applied to all divided vessels, the acromian process was sawn across one-fourth of an inch from its extremity. A chain saw was passed around the neck of the scapula, over the notch just posterior to the attachments of the scapular ligaments of the shoulder joint and divided from below upward. Careful inspection of the adjacent muscular and fibrous tissue was next made and any suspicious looking tissue carefully clipped away. The tumor was inclosed in a capsule and apparently included the supraspinatus muscles. The shoulder joint was not involved. No secondary glandular deposits were noticed. Patient bore the operation well, reacting promptly. The divided muscles were united by deep-buried, silk sutures, drawing them across the area occupied by the scapula. The integument was closed by deep, interrupted sutures, a large, perforated, rubber drainage tube was passed to the inferior angle of the wound between the ribs and the muscles, resting directly upon the ribs. A smaller perforated rubber drain was carried from the upper end to the lower angle of the wound, between the muscles and the integument, and a small rubber drain placed at the internal upper angle of the wound, the integument being closed by a continuous Kocher suture, dusted with iodoform and dressed with a heavy antiseptic compress of gauze, surrounded by salicylated cotton and retained by broad strips of adhesive plaster; a modified Strohmeyer cushion being placed beneath the arm, the whole being fixed by a Velpeau bandage. The patient was then placed in bed with instructions to be kept quiet and to be given brandy ad libitum

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and sufficient morphine to control pain. Twenty-four hours after the operation the patient was again visited by the Drs. Bell and found in a very satisfactory condition, slight pain, but no unfavorable symptoms. From this time on the patient was visited on alternate days by Drs. John and George M. Bell until the seventh day, when the dressings were removed for the first time. Wound looked healthy; no discharge. After passing through the drainage tubes about one-half gallon of bichloride solution, the wound was dressed as at first.

In five days the dressings were again removed; at this time there was some discharge of pus. After a washing with carbolic acid solution, one drachm to one quart of water, the smaller drainage tube being removed, the wound was dressed as previously. After this time the wound was washed and dressed every second day. From the end of the second week the patlent made a speedy recovery. His temperature never exceeding 102½ and no unfavorable symptoms arising at any time to cause anxiety. It is now three months since the operation and upon examination we find free motion of the arm forward and backward with strength sufficient to raise the arm almost to a right angle with the body, and he does not suffer any pain or other inconvenience from it. He is doing considerable work and stated that he could do more. His general health is first class, and wound is without soreness or pain, perfectly healed.

Dr. Frank S. Billings presented a guinea pig, which had been inoculated with the virus of glanders, and said: Ladies and gentlemen: My friend, Dr. Holmes, has a case that has troubled him a great while, four or five months, of glanders in man, that shows none of the characteristic lesions as described in the books, but a peculiarity upon which he will report at a later time. There was nothing but a peculiar series of clinical abscesses and when they were opened there was nothing of the abscess character about them; they were full of a hæmorrhagic viscid material, and refused, in general, to heal, but as the man has got along for over four months the chances are that he will recover. One of these collections was opened by Dr. Holmes and on May 16th I inoculated a rabbit and a guinea pig from it. As perhaps some of you know, Loefler has shown beyond question that the inoculation of the male guinea pig will give a peculiar purulent inflammation of the sheathes of the testicles, which is said to be characteristic of glanders. The rabbit died last night, but from it we obtained the germ of glanders, and here I have the ear, on the inside of which you will see the healing after inoculation with cicatrical contraction going on, and outside of that, following down the lymphatics is a partially healed ulcer. An examination of this guinea pig will demonstrate the other side of the story.

CHICAGO, June 2, 1890.

Dr. Frank S. Billings read a paper on *Preventive Inoculation.*

Preventive Inoculation is an unquestionable possibility in all diseases of a non-recurrent character. Nature has indicated this fact for hundreds of years, but man has scarcely learned to appreciate it yet. We start upon an already open path. At its very entrance we can see the guide-post, "non-recurrent." To pass on to success requires simply honest and heroic workers. The spirit of brotherly love should rule where greed for the Almighty Dollar now reigns supreme. The nation itself must be educated to an appreciation of what can be done, then success will come. Only heroes can do such work. The present reign of mediocrity and unprincipled selfishness in our laboratories must be crushed. Better anarchy than the existing conditions. Fraud rules in the place of scientific honesty. Salary grabbers occupy places which should be filled by original investigators with the true scientific spirit.

No mind but a free one can investigate correctly *the difference between experimental and preventive inoculation.*

These two procedures must be most sharply differentiated. While preventive inoculation must necessarily depend upon experimental for its perfection, we have no need to resort to it to demonstrate prophylaxis by this method to be a possible fact. Preventive inoculation does not depend upon experimental for its demonstration as a possibility. Nature has already done that—as mentioned.

THE TRUE VALUE OF EXPERIMENTAL INOCULATION.

What do we mean by Experimental Inoculation? Let us thoroughly understand that first.

By experimental inoculation we simply mean the transference of the disease products, (or, pure cultitions of the micro-organismal cause of a given disease) from diseased to healthy individuals of the same, or other, species of animal life, in order to see what the results may be.

It is an attempt at transference, nothing more.

The success of such an experiment is determined entirely by the nutrition offered, by the animals inoculated, to the germs of the disease inoculated.

The amount of imbecile nonsense which has crept into medical literature upon this subject is almost indescribable. Koch and his school are almost entirely to blame for it. It shows an utter want of true pathological knowledge and philosophical acumen. It is entirely wanting in sequential logic.

It has been assumed that experimental inoculation in small animals must of necessity determine the real nature of the disease of the animal from which they were inoculated. Such an hypothesis is absolutely absurd. It need not necessarily determine anything of the kind.

These writers do not know the logical definition of the word CONTAGIOUS. While they frequently write deftly about "faculative" and "obligatory paracites" their language in regard to the results of experimental inoculation shows that they use words without knowing their logical application. They speak of the "Contagion of Anthrax" (a faculative paracitic disease) and the "Contagion of Glanders," (a obligatory parasitic disease) in the same breath. Logically speaking, the word "Contagious" simply means the coming in contact with an infectious principle, utterly regardless of its origin. It may be a syphilitic person in one case and a filth-hole in the ground in another. Both may be equally "contagious" but the inficiens in each case had a different origin entirely. This and this alone must decide the nature of a disease. They must, of necessity, be either ex—or endogenous primarily. Practically, all physicians and hygienists know what they mean by a "contagious" disease. They mean that a diseased

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individual must be or has been present of a given species of animal life as its source primary of origin. Historically, we know of no other primary genesis for these diseases. We know that no individual can acquire syphilis, or glanders, or scarlet, or mumps, unless an individual having been afflicted with one of these diseases has been in the immediate vicinity. The closeness of the contact necessarily varies in different diseases. Remove such diseased individuals, clean up, or destroy their belongings and the danger of contagion is removed.

Experimental inoculation cannot strengthen the case in the least degree. The endogenous character of such diseases, that they were strictly contagious in the practical sense, was known centuries before a bacterium was ever heard of. Only bacterio-fanatics seem to be ignorant of this fact. Inoculation of small animals cannot strengthen it an iota. To ignorant minds it might weaken the practical every-day evidence. All animals are not equally susceptible to a given inficiens. Even though experimentally inoculable a given contagious disease often loses its specific, practical characteristic by inoculation in experimental animals of a given species, but different from that in which it naturally occurs. For instance: glanders, transmitted from a diseased horse to rabbits or guinea-pigs, will not extend, of itself, to uninoculated rabbits or guinea-pigs. It is not contagious in these animals.

A recent writer says that the "crucial test" of the contagiousness of tuberculosis was only obtained when the results of inoculation in rabbits and guinea-pigs had become known. Nonsense! The "crucial test" is the result of contact between diseased and healthy individuals of the species in which a disease naturally occurs, or is naturally transmitted to by accident. According to these absurdly illogical observers of pathological phenomena syphilis should not be contagious because non-transmissable by inoculation to domestic animals. Why any sane person looking upon himself as an investigator, especially such a one as Koch, should speak of the Contagion of Anthrax, Swine-Plague, Dyptheritis or Rabbit Septicæmia, passes one's comprehension. The latter disease has been especially mentioned because it is not a natural disease in rabbits, simply to demonstrate the utter absurdity of this position.

The word "contagious" does not properly express the practical and hygienic meaning attached to the diseases to which that name has been given. As repeatedly stated, and as must be definitely understood, it simply means contact with an inficiens and has no absolutely necessary connection with origin. Let us illustrate this by an example: A physician makes an autopsy on two difierent people on the same day; one has perished from syphilis, the other from anthrax. In both cases he accidentally cuts a different finger and in one becomes a chancre, in the other a malignant pustule develops. Such a thing is possible but not probable. What has taken place? Accidental inoculation, through contact with two different individuals. Contagion. The primary origin of the two diseases has been entirely different, however. The syphilis primarily originated from another individual; the anthrax from the ground of some locality. The one is endogenous, the other exogenous. This at once demonstrates the folly of any further use of the word "contagious" in the differential classification of diseases, as it does not express our true meaning.

To sum up then, we can logically speak of diseases as extra-organismal or exogenous, intra-organismal or endogenous, and sporadic—that is, of undemonstrable origin; or, in other words, from the etiological point of view we can logically only classify diseases according to the primary origin of their cause. Or to speak with Hueppe as "obligatory parasites," by which he means that such etiological moments are primarily found on the conditions offered by some form of animal life for their existence and continuous development; or in other words, such diseases are "endogenous" in origin, to speak with Pettenkofer, or intra-organismal in origin, as I have termed it.

An endogenous disease is one which, so far as we can historically trace its genesis, has found and still finds, its locus of primary origin for each new outbreak or extension of the disease in a diseased individual of some given species of animal life (and never in any other way), and then passes directly from the diseased individual to another susceptible, healthy one, either by direct contact or cohabitation, or by contact with some effluvia, secretion or other material which has either come directly from or been in immediate contact or relation with such a diseased individual.

Speaking in the old sense, such a disease would be "contagious." Speaking according to the nonsensical usage of the word at present, no one can tell what its true origin might have been.

In contradistinction to obligatory parasitic diseases Hueppe has given us the term "faculative parasites," by which he means to indicate diseases of parasitic origin, in which the point of primary development of the germs is invariably outside the animal organism, but they have the faculty of living for a time within the organism of certain species of animal life, becoming parasitic or disease-producing for the time, when such animal organisms offer the necessary nutrient conditions to their life. To this class Pettenkofer has given the name "exogenous," while I have termed them "extra-organismal," or diseases which find their primary origin in external or surrounding conditions. Or in other words:

An exogenous disease is one which invariably finds its locus of primary origin not in, but outside of an animal organism; that is, in the earth or in the surroundings of animal life, where its micro-organismal cause develops under certain conditions of climate and soil which offer the necessary nutrient conditions to the life and continuous development of its germ.

The infected earth or locality bears the same relation to animal life in the origin of exogenous diseases that the infected animal organism does to healthy, susceptible animals in endogenous diseases; that is, they each form centers of primary origin regarding specific diseases in their respective class, but with this difference: *the focus of primary generation, or infection, is fixed in exogenous diseases, while it is movable in endogenous.*

The locus infectionis, that is, the point of primary infection or origin, is contagious in either case. In the one a healthy, susceptible individual must come in direct contact, that is, be upon or in such an infected locality or come in contact with material derived directly from such a locality, while in an endogenous disease the same occurrences must take place in reference to some form of animal life. Hence it is to be readily seen that the word "contagious" has no logical use or place in the nosology of diseases,

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according to the results of modern methods of investigation.

PREVENTIVE INOCULATION.

Preventive inoculation is an entirely different procedure. It is based upon a natural phenomenon, viz.: that a given disease is non-recurrent in character. But more, that this non-recurrent condition of the organism is produced equally as well in the mildest attack of a given disease as in cases in which the diseased individual barely escapes with life. Diseases of this non-recurrent character are small-pox, typhus-abdominalis (vulgarly called typhoid fever), measles, mumps, scarlet, whooping cough, chicken-pox, yellow fever and some others in the human family; and in the domestic animals some of the so-called horse-distempers, contagious pleuro-pneumonia in cattle, anthrax, swine plague, rouget in swine, hen cholera, southern cattle plague (Texas fever) and black-leg, and probably the corn-fodder disease, and others.

Some authorities assert that Asiatic cholera is also non-recurrent in character, and I am inclined to think that glanders can be made so by the inoculation of farcy in a mild form. There are probably quite a number of these diseases still unknown to us in the poorly investigated portions of the globe. I am one of those who at present does not believe that rabies is a non-recurrent disease and hence have no faith in inoculation as a preventive. That non-recurrent diseases can be prevented by inoculation was first discovered in small-pox and then demonstrated by Pasteur to be possible in anthrax, hen cholera and rouget, and by Arloing and others in black-leg; by Willems, in pleuro-pneumonia in cattle; by Freire, in yellow fever, in Brazil; by the author, in swine plague, and by Dr. Paquin, of Missouri, in Texas fever, in this country. With none of these diseases but small-pox can we claim to have arrived at any perfected method, but still the immense losses incurred and the practical results which have followed, warrant the continuation of present methods until others are discovered or these improved upon. The value of their discovery and the practical demonstration that inoculation will prevent in the diseases enumerated cannot be overestimated. It shows what can be done and will be a stimulus to more extended endeavors. It is my firm belief that before the end of the next century every non-recurrent disease at present known to us will have been brought under the control of preventive inoculation, but more especially those of child-life.

Who can place a monetary value on such results? Is not the mere possibility of such a result promised as it is directly to us by the very non-recurring nature of these plagues of our babes sufficient to warrant the establishment and maintenance of laboratories for such investigations by our National and States government? Is it not the duty and mission of a broad and wise statesmanship to meet this great want? Is not a vigorous and healthy condition of our people the very kernel of a prosperous political economy? Then why are we sleeping? Why is the medical profession so dead to its duty? Is it that a prosperous graveyard makes plump pocket books? No! No! It is ignorance and thoughtlessness, but most of all, a lack of the true humane and noble spirit which should dignify the medical profession of a country.

A perfected condition of the human race should be the only ideal to be sought after by the medical profession. Exact and scientific government schools can alone produce this desired condition. Speculative institutions, or any such as depend either in part or in toto upon students' fees for support, can never give anything of value to the country. They may turn out a few competent physicians, but never scientifically qualified ones.

With this introduction let us turn to the consideration of preventive inoculation once more, especially to its introduction in relation to Small-Pox. We have said that inoculation was the transmission of the products, or cause, of disease from a diseased to a healthy individual. In relation to the prevention of Small-Pox, this procedure is known as

VARIOLATION.

To repeat, variolation was, or is, the transmission of small-pox itself from diseased persons to healthy ones, by the inoculation of the products of disease themselves. This procedure was first practiced by the Chinese and East Indians, a long time before the birth of Christ, but was not inaugurated in Europe until many centuries later. Small-pox itself is produced. Why then was it resorted to? Anyone at all acquainted with epidemiological history of diseases before this century, especially in the fifteenth, sixteenth, seventeeth and eighteenth centuries, must know what terrible misery and desolation this plague caused. Many districts and even cities and towns of considerable extent were almost depopulated by it.

We of to-day can scarcely form any idea of the ravages of small-pox in Europe in the past centuries, but the quotations of a few figures will at once enlighten us, and when they are compared with the same results of to-day, the benefits of vaccination become at once apparent.

Between 1866 and '69, 140,000 people died of small-pox in the departments of Bombay and Calcutta, and in all India, in 1874 and 5, the deaths from this cause were estimated at 500,000; and 200,000 in 1875 and '76. Between the years 1711 and 1740, 65,000 are reported to have died from small-pox in England. In 1734 two-thirds of the population of Greenland died, 7,000. The deaths from this disease equaled the births at Turin, Italy from 1796 to 97. In Prague, Germany, the deaths were 6,686 in 1796, and 15,558 in 1799. In Prussia, 1796, 24,646. In the province of Wertenberg, in 1790, 1800, 36,933. France, from 1726 to 1754, 760,000, of which Condamine says (Memoire sur 'l inoculation de la petite-veriola, 1854), that this number of lives could have been largely saved had there been a general recourse to variolation. In Sweden, from 1749 to 1765, 144,194 deaths from Small-pox were reported. In London, in sixty-seven years the deaths from this cause were 113,851, and from 1837 to 1840, 36,000.

Why was variolation resorted to? There must have been some one striking phenomenon in the clinical history of the disease which attracted even the attention general of the common people. What was it? It was the fact, that the disease was in general "non-recurrent" in character. Outbreaks at that period of the world's history occurred almost constantly, though in some years, or at intervals, to a far more murderous degree than at others. This condition of things soon demonstrated to the people that, as a rule, those who had the disease once seldom suffered a second attack. They had abundant opportunities to test this fact. They also discovered a second

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fact, which was of far greater importance. They noticed that in years when the disease only appeared here and there among the people, and not as a general epidemic, that it was unusually mild in character: and also, that those catching (contagion) the disease from others generally had the small-pox in the same mild manner. In other words, as in other things in nature, they saw that "like (generally) begat like," or that a mild a non-malignant type of small-pox in one individual generally produced the same character in another, if exposed to infection from the first. As has been intimated, the Chinese and other Asiatic people observed this valuable fact centuries before it received any recognition in Europe. They were then well acquainted with several facts in the history of small-pox, which were—

First. That when malignant in its first appearance, it would preserve that character among the whole population.

Second. That when mild it held the same course.

Third. That it was non-recurrent, as a rule.

This last was a tremendous discovery. These so-called barbarians seem to have been practical enough to endeavor to take advantage of these phenomena. Knowing the difference in the results between a malignant and mild outbreak, and that the disease did not generally recur again in the same individual, and that at no time could those that had not been diseased be safe from its ravages, they took advantage of the mild outbreaks, and tried to induce the disease, at such times, in every susceptible member of the community.

The first attempts at transference were those most natural to occur to the untutored mind—non-diseased persons were obliged (or did it themselves) to wrap the clothing of diseased ones about them, or the scabs were rubbed on the skin, or upon scarified or wounded places. In India, where the history of variolation seems to extend into the misty and indefinite past, it was entirely in the hands of the Brahmin priests, and hence acquired a very wide extension. They had certain seasons of the year in which they went among the people for this purpose, who were especially prepared for it by certain known dietetic regulations. The priest then went from hut to hut, variolating the people at the door. The point of attack was the outside of the fore or upper arm. The skin was washed thoroughly and then rubbed hard with a dry cloth, at the point selected, small incisions being made in it. The virus to inoculate with was from the previous year, and dried on cotton, which had been saturated from diseased individuals. They never used fresh material. Variolated people were subject to especial hygienic rules for a period of four weeks.

It is said that the danger from this treatment was so small, that it was rare that any one died therefrom. It seldom failed to give protection. In Circassia it was resorted to in the early life of the maidens, in order to preserve them from the scars of the natural disease, which would render them unsuitable for sale to the lords of the harem.

From Asia, Arabia and Northern Africa, this procedure finally extended to Europe, by the way of Turkey and Greece, but found the most bitter opposition from the physicians of the time, and the clergy, the chief objection raised being that it was trifling with the will of God, to take measures to prevent anything which He caused; that small-pox was a punishment of the Lord's, for the sins of humanity, and hence justly deserved. (See de Haen and other writers of the period. Hæser "History of Medicine." Bohn "Handbuch d. Vaccination," and other works upon small-pox.)

Early in the seventeenth century, however, variolation became a "boon" (if I may be allowed a modern expression) in England, which was instigated by a courageous woman, Lady Montague, the wife of the British ambassador at Constantinople, where she had seen the procedure and learned of its real benefits. On her return to London in 1717 she had her six-year-old variolated, and four years later her only daughter. This venturesome act set all fashionable London in a whirl of excitement, and by order of the king six persons that had been condemned to die, were pardoned on condition that they would subject themselves to inoculation, and then be exposed to small-pox. This was done, with the most positive and satisfactory results. Soon afterward the children of George I. were inoculated, and then the treatment became more or less fashionable.

It is only justice to the fair sex to mention that to a woman also, the Marchioness Buffalini, is due the generalization of variolation in Italy.

Variolation had two historical periods; the one beginning, as has been shown, in the earliest days of historical record, and extending to the year 1760. This may be called the Crude Empirical period. The second, which may be called the period of Exact Scientific Observation, began and continued to the demonstration of vaccination by Jenner, May 14, 1796.

If vaccination had its Jenner, so had variolation its Gatti, to whom the world is equally indebted, for it was almost entirely due to the acute observational powers and logical conclusions of this great Italian physician, that variolation itself became an almost safe and equally valuable prophylactic measure to vaccination. Though there seems to have been no historical connection between the work of Gatti and Jenner, still the one did prepare the way for the other, for Gatti demonstrated most conclusively the almost safe prophylactic power of variolation (to the individual inoculated), and hence his work gave a substantial and practical foundation to vaccination.

Variolation was the first great and successful experiment in the history of pathology, as well as the very foundation of preventive inoculation. It was the first practical demonstration of the fact that non-recurrent diseases could be actually prevented by artificial inoculation; that the art of man could successfully reproduce the work of nature. That as in nature, a mild attack of a non-recurrent disease occurred, so could man by the transmission of the disease-product from such a person to a healthy individual, also produce the same mild disease; and hence induce in the inoculated individual that same immune condition which nature produced, under similar circumstances.

The name of the real European founder of such a beneficent procedure should not have been allowed to have been so profoundly buried in the archives of medical history. How many American physicians ever heard of the name of Gatti, and yet it should be kept as fresh in memory and crowned as plentifully with laurels of gratitude, as that of the ever immortal Jenner?

[TO BE CONTINUED.]

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Western Medical Reporter.

A Monthly Epitome of Medical Progress.

JOHN E. HARPER, A. M., M. D., EDITOR.

G. FRANK LYDSTON, M. D., ASSOCIATE EDITOR.

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THE EDITOR would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information should be accompanied by the full name and address of the writer, although not necessarily to be published. All communications should be addressed to

WESTERN MEDICAL REPORTER, 163 State Street, Chicago.

A Correction.

The following is from Dr. Hughes, relative to his article in the last number of the MEDICAL REPORTER:

ST. LOUIS, July 26, 1890.

MY DEAR EDITOR: In my article on "Why we are Right-Handed," in your issue of July, are some errors—verbal, grammatical and nominal, and one or two other mistakes—which so mar the sense of the whole as to call for correction. I regret the proof-sheets were not sent to me.

First, "setting" should be sitting, in ninth line. Second, "*sur la qie*" in fourteenth line, should read *sur le vie*. Third, in the twenty-third line "Fomir" should read Ferrier. Fourth, in the forty-fourth line, for "formed" free should be read and the word "germane" is omitted from the third line from the bottom.

Any one reading the article with these corrections will give the writer credit for more clearness of meaning than may be apparent to the reader as the article now reads in your valuable journal. Your types appear to have expanded up there since the advent of hot weather, and the completion of the big census, but it is not the *fair* thing to take the *senses* out of your contributors' paragraphs.

Yours truly, C. H. HUGHES, M. D.

[Through some inadvertence the proof of the article by Dr. Hughes in our last issue was not sent either to the author or to the editors for correction; hence the errors which marred a very valuable and original contribution—EDS.]

The Mississippi Valley Medical Association at its coming meeting at Louisville, October 8, 9 and 10, promises to be one of the most successful meetings of the year. The program is rapidly filling with papers from the brightest medical minds of not only the Mississippi Valley but representative men from the east. Dr. John Wyeth, of New York, will deliver an address; Dr. Frank Woodbury will read; Drs. Whittaker and Reamy, of Cincinnati; Love, St. Louis; Scott, Cleveland; Ray, Louisville; Sutton, Pittsburgh; Lydston, Chicago, and a host of others will be there with papers. A full social program is being arranged, as only Kentucky hospitality can arrange it, and the ladies are especially invited. Dr. J. M. Matthews, of Louisville, is President; Dr. E. S. McKee, of Cincinnati, Secretary, and Dr. I. N. Bloom, of Louisville, Chairman Committee of Arrangements.

Notes on the Alkaloids.

PAPAYOTIN.

Papoid, or Papayotin is an alkaloid derived from the juice of the *carica papaia*, a tree found in Java and South America.

Professor Finkler, of Bonn, who has done most to promote the value of papoid, has taken several occasions to urge it as a substitute for pepsin. That he has succeeded in this is manifest by the fact that papoid is as much discussed in Germany to-day as was cocaine a few years ago. Touching its physiological action in the stomach, the observations of Finkler are as follows:

"1. Unlike Pepsin, its action, begun in the stomach, is continued in the intestine.

"2. While pepsin will only act in presence of an acid, papoid acts with unvarying energy, be the reaction acid, alkaline or neutral.

"3. It dissolves at least 1,000 times its own weight of fresh fibrin.

"4. It acts as an antiseptic.

"5. In contrast to pepsin, it acts when the resulting peptone solution is highly concentrated, and such action is highly energetic.

"6. It is of uniform quality.

"7. The conditions under which it changes albumen into peptone are different from those observed for same effect with pepsin or trypsin.

"8. It is harmless and easily tolerated.

"9. It acts in presence of other drugs.

"10. With its use the possibility of poisoning by ptomaines is rendered negative.

"It improves digestion, stimulates the gastric glands, removes morbid membranes, mucus and pus, and relieves pain and vomiting."

He has employed it successfully in dyspepsia, gastric and intestinal catarrh, anorexia, flatulence, alcoholic emesis, anemia, and for relief of some of the distressing symptoms of gastric carcinoma and ulcer. The dose is grs. i j—v, during meals, and with as little liquid as possible. "Distinct cure is produced rapidly."

When applied to the diphtheritic membrane it dissolves it in a few hours, destroying the microbe of the disease, and thus causes an early fall of temperature. It holds tenaciously to the fibrin, and, once applied, nothing can prevent the destruction of the membrane. It may be applied as a solution or as a paste. If in solution, a strength of one-fifth is preferable, with applications every half hour in the form of spray. Better and quicker results can, however, be obtained by rubbing up gr. 5 with as much water as will make a thin paste, and applying this with a brush.

Dr. J. A. S. Grant (Bey) says that when injected into the blood it paralyzes the heart and nervous system. "It must not, therefore, be used without certain precautions, and I should be very chary in applying it to a bleeding surface; but the living, healthy mucous membrane is not affected by it."

Dr. A. Jacobi has successfully used papoid, and both before the State Medical Society and the Academy of Medicine, has read papers on its use.

Prof. Anstie says: "I am opposed on principle to new remedies, firmly believing that it would be better to revive the use of some of those which are old and well nigh obsolete. Yet, I admit that there are drugs that 'must go,' and one of such is pepsina porci, which should be tabooed, if for no other reason, because of the possibility that it is derived from trichinous material. The vegetable pepsin, papoid, accomplishes all that we have hoped for from the animal product, and I look for the latter's dispossession by it." *N. Y. Medical Times.*

COCAINE IN VOMITING.

The use of this drug in obstinate vomiting has seemingly been overlooked by the medical profession. Its value is undoubted; especially is it useful in vomiting of pregnancy and the obstinate vomiting of gastric ulcer and cancer. It is also useful in vomiting of entero-colitis of children, a disease which is so frequent in our large cities during the heated term, and in which vomiting is often so prominent a symptom. In the latter affection it is best given in combination with bismuth.

Cocaine will be found of value where other remedies fail. I have found it successful in those cases of

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vomiting of pregnancy in which the so-called specifics, oxalate of cerium, etc., have failed. In gastric cancer it will often arrest the vomiting for days at a time, thus giving the stomach rest and allowing more perfect attempts at nutrition.—Dr. M. W. Everson, *Western Med. Jour.*

LOBELINE.

The alkaloid of lobelia inflata, lobeline, belongs to the group of volatile alkaloids, but its chemistry and pharmacy, as well as physiological effects, have received little attention. It has been claimed that it possessed properties analogous to coniine and nicotine, two sister volatile alkaloids, and by analogy emetic and nauseant qualities have been ascribed to it. Recently it has been credited by Dr. Silva Names with great value in asthma, in doses of about one-sixth grain, gradually increased until six grains were taken at a time, even in which dose no toxic effects were noticed. Subcutaneously it produces no untoward symptoms. The alkaloid was not found to possess emetic or nauseant qualities. In asthma its effects are said to be permanent, and it is also thought it will be found serviceable in tetanus and like convulsive diseases.—*Exchange.*

AGARICIN.

Few practitioners appreciate the exceedingly great value of agaricin as a remedy in night sweats, especially those of phthisis. The most profuse sweat is checked almost by magic with a single dose. It operates by diminishing thirst and increasing the secretion of urine. The dose may be pushed to the extent of one grain in the course of twenty-four hours. The single dose for an adult is from one-eighth to one-fourth of a grain.—*Technics.*

PICROTOXIN.

For night sweats—particularly in phthisis—many drugs have been used and recommended for this distressing symptom, superior to anything I have ever used, and on account of the small bulk, exceedingly easy of administration, is picrotoxin. I have been using this drug for five years in this connection, and have noted failure in but one case; this yielded only to strong doses of atropia, the effects of which the patient disliked so much as to prefer the sweats. I use it also when the sweats that frequently attend the termination of the continued fevers are exhausting the patient. Here, too, it works nicely.—*Dr. T. M. Ward, in Pittsburgh Medical Review.*

PICROTOXIN

is a very efficient antidote to morphine poisoning, according to Professor Bokai. It stimulates the respiratory center and can be given more freely than can atropine.—*Med. Record,* March 1889.

—The *Therapeutic Gazette* says that 1-60 or 1-80 of a grain of picrotoxin taken at night will prevent the night sweats of consumption for several nights.

Book Reviews.

"Extra Uterine Pregnancy."—Discussions reprinted from the Transactions of the American Association of Obstetricians and Gynecologists. With an Appendix reviewing Mr. Lawson Tait's "Ectopic Gestation and Pelvic Hematocele." Wm. J. Dorman, printer, Phil. pp. 66.

These discussions are classified in their order, embracing Pathology by Franklin Townsend, M. D., with report of Dr. Parkhurst's case of "Extra Uterine Conception," where the fœtus was carried fifty years; Diagnosis, by Joseph Price, M. D.; Treatment, by E. E. Montgomery, M. D.; Observations, clinical, pathological and surgical, by W. H. Wathen, M. D.; a Critique of its management, by J. M. Baldy, M. D.; the Technique of the operation, by John B. Deaver, M. D.; its management, when the Fœtus Survives Tubal rupture, and goes on to the period of Viability, by L. S. McMurtry, M. D.; its Treatment, (concluded) by A. Vander Veer, M. D. The appendix being an editorial review from the Buffalo Med. and Surg. Jour., March, 1889, on Mr. Lawson Tait's views on Ectopic Gestation and Pelvic Hematocele. The plates are fine examples of photogravure, the same can be said of the wood cuts and the typographical part of the work, the paper being of fine quality, and the print clear.

Wood; Medical and Surgical Monographs, consisting of Original Treatises and complete reproduction in English of Books and Monographs selected from the latest literature of foreign countries, with all illustrations, etc. 8vo., leatherette, published monthly. Price, $10.00 per annum, or $1.00 per number. Wm. A. Wood & Co., Publishers, 56 and 58 LaFayette Place, New York.

Vol. IV., No. 1 consists of the following works, viz.:

The Influence of the Male Element upon the Female Organism, by John Brown M. D.; The Internal and External Temperature of the Human Body as Modified by Muscle Kneading, by A. Symons Eccles, M. D.; the Diseases of the Breast, by Thomas Bryant, F. R. C. S.

In No. 2 are:

The Surgery of the Knee Joint, by C. B. Keetley, F. R. C. S.; Aids to Ophthalmic Medicine and Surgery, by Jonathan Hutchinson, Jr.; Bacteriological Technology for Physicians, by Dr. C. L. Salmonsen.

No. 3 contains five interesting works. They are as follows:

"A Practical Treatise on Baldness," by Geo. T. Jackson, M. D., "The Spheres, Rights and Obligations of Medical Experts," by Jas. O'Dea, M. D.; "Pathology and Treatment of Ring-Worm," by George Thin, M. D.; "Notes on Dental Surgery," by J. Smith, M. D., LL. D.; and "Sounding for Gall Stones and the Extrusion of Gall Stones by Digital Manipulation," by Dr. George Harley, F. R. S.

Commencing with the year 1890, Vol. V., No. 1. leads off with a large variety of excellent articles consisting of:

"Neuralgia; Its Etiology, Diagnosis and Treatment," by W. R. Gowers, M. D., F. R. C. P.; "Prognosis of Diseases of the Heart," by Prof. Leyden; "The Sputum; A Contribution to Clinical Diagnosis and Practical Examination for Tubercle Bacilli," by Dr. Peter Kaatzer; "Hypnotism; Its Significance and Management" briefly presented, by Dr. August Forel; "The Forms of Nasal Obstruction in Relation to Throat and Ear Disease," by Greville Macdonald, M. D.

In No. 2 for February, are contained:

"Action of Uric Acid in the Causation of Disease," by A. Haig M. D.; "Initial Stage of Consumption, their Nature and Treatment," by Horace Dobell, M. D., London; "Ectopic, Pregnancy and Pelvic Hæmatocele," by Lawson Tait, M. D.

No. 3 completes Vol. V. with the following articles:

"Arrest of Growth in Cancer by the Interrupted Voltaic Current" (electro-atrophy), by Dr. J. Inglis Parsons. A paper by Sir Morrell Mackenzie, entitled "The Dreadful Revival of Leprosy." "Diseases of Old Age," by Dr. A. Seidel; "Urinary Neuroses of Childhood," by Dr. Louis J. Guinon; "Varicose Veins of the Lower Extremities," by William H. Bennett, F. R. C. S.; and "The Uses of Electrolysis in Surgery," by Dr. W. E. Stevenson. Profusely illustrated.

An index to Vol. V. completes the set.

It is unnecessary to further eulogize the monographs, for no doubt their general excellence has been appreciated by the majority of the profession ere this The variety of subjects introduced admirably adapts them to the requirements of every specialty, while their cheapness enables every physician to secure a copy if he so desires.

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Western Medical Reporter.
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VOL. XII. SEPTEMBER, 1890. No. 9

ORIGINAL ARTICLES.

Tropho-Neurosis as a Factor in the Phenomena of Syphilis.

By G. FRANK LYDSTON, M. D., Chicago.*

In studying some of the late or sequelar lesions of syphilis, particularly those involving changes in the oseous structures of the head and face, I have been forcibly impressed by certain characters of the lesions which seem to depend upon a more occult series of pathological changes than those to which they are usually accredited. Some of these characteristics also pertain to many of the lesions of the active or secondary period of syphilis.

The relation of certain syphilitic phenomena to organic or functional disturbances of the nervous system—and particularly the sympathetic system—is certainly manifested here and there along the whole line of morbid phenomena developed in the course of the disease. The syphilitic fever, so-called, while an inconstant phenomenon, is present in a sufficient number of cases of the disease to practically settle the question of the relation of cause and effect. The symptoms which collectively we designate syphilitic fever, are, in common with some other ferbile constitutional disturbances, undoubtedly dependent upon the action of a special poison upon the sympathetic nervous system. It is logical to infer from what we know of the physiology of the sympathetic system, and particularly of those functions of the sympathetic which we term trophic, that the majority of fevers—if not all—are directly dependent upon the action of the specific poison upon the sympathetic ganglia, which action is manifested by disturbed metabolism and the resulting phenomena of fever. So in the case of syphilis the poison may produce so profound an impression upon the sympathetic ganglia that the trophic function of this portion of the nervous system is disturbed, with an attendant perversion of tissue metabolism, a resultant excessive production of animal heat and the accumulation in the system of the toxic products of perverted physio-chemical change. The fact that the so-called syphilitic fever is not a constant phenomenon, but affects only a certain portion of individuals attacked by syphilis is explicable upon the ground of idiosyncrasy.

The argument that the syphilitic fever is the result of an impression produced by the syphilitic poison upon the sympathetic nervous system does not necessarily imply—nor do I intend it to do so—that the syphilitic fever is a part of the natural course of the disease. On the contrary, I believe that it is accidental and the result of idiosyncrasy. We know that different individuals are variously affected by the constitutional impression of organic poisons. Certain individuals are affected by urticaria or erythema upon the ingestion of shell-fish, this result being particularly apt to follow when the particular article of food is not perfectly fresh or was not in an absolutely healthy condition when taken for food. Some persons are seriously affected by the ingestion of certain vegetables—particularly if partial decomposition has occurred. Canned vegetables, and especially tomatoes, are especially liable to impeachment upon this ground. If it is fair to infer that by virtue of idiosyncrasy the nervous system of certain individuals may be morbidly impressed by certain food substances which are innocuous to the majority of individuals, it is certainly fair to assume that in the case of so powerful an organic poison as that of syphilis, with which a large number of individuals are inevitably inoculated, certain special and exceptional phenomena might be produced in some persons.

Attendant upon or following the syphilitic fever, or occurring independently of it, we have a characteristic manifestation of syphilis, which in cases unmodified by treatment is probably always present in greater or less degree. I refer to the syphilitic roseola. This eruption has been shown to be unlike the other phenomena of syphilis in that it is dependent, not upon a localized collection of proliferating syphilized cells, but upon vaso-motor disturbances, the essential objective element of which consists in dilatation of the capillaries in localized areas of the skin. This, as far as we are able to positively determine, is dependent upon the impression of the syphilitic poison—virus, bacillus, degraded cell, or whatever term may be selected to designate it—upon the central sympathetic system. This impression is essentially the same as that produced by certain vegetable poisons. It is not, however, dependent upon idiosyncrasy, although it may be modified by it; thus we find in some individuals a very marked roseola, in which the lesions are disseminated over a large area of the integumentary surface and are very prominent and well-defined; whereas in others we may find upon close inspection perhaps but a single lesion. The gradations between the two extremes are very various. Idiosyncrasy might be quite plausibly advanced as the explanation of this wide variation.

The action of certain drugs given for medicinal purposes is a further illustration of the results of various poisons upon the sympathetic nervous system as manifested by the appearance of morbid cutaneous phenomena. Belladonna, quinine, opium, copaiba, chloral, salicylic acid and numerous other drugs have been found to produce, in exceptional cases, an efflorescence upon the skin. The rarity of such phenomena, in conjunction with other proofs of idiosyncrasy and the known properties of these various drugs as far as their action upon the skin is concerned, are positive evidences of their neurotic character.

The lesions of syphilis which succeed the roseola have been so positively demonstrated to be dependent upon a localized deposit and proliferation of syphilized cell material that it would appear to be impossible to apply the neurotic theory to them. It is only necessary, however, it appears to me, to direct attention to the marked symmetry which characterizes the peripheral phenomena of syphilis to at once suggest the probability of a central nervous element in the production of the various lesions. It is, to be sure, admitted that a symmetrical development of eruptive

*Read before the Southern Surgical and Gynæcological Association, Nashville, Tenn., Nov. 12, 1889.

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lesions occurs in some other affections. It will be found, however, that a nervous element is either positively demonstrable, or the skin lesions are so abundant and general that it would be impossible that they should be otherwise than symmetrical.

As a most positive proof of the relation of eruptions of the skin to nervous disturbance of a presumably trophic character, I have but to allude to herpes zoster. In this disease we find an accurate delineation of the course of the affected nerve by the eruption, and a very manifest local disturbance of nutrition of the affected tissues. Generally some portion of but one side of the body is affected by this disease. It is sometimes bilateral and consequently of a more serious character than usual. Some of the later lesions of syphilis are unilateral, and as will be shown by a case shortly to be related, almost as plainly referable to the distribution of a particular nerve as is the case with herpes zoster.*

Recurrent herpes zoster is especially pertinent to the question of tropho-neurosis. This disease is usually followed by cicatrices. The first symptom is a burning sensation followed by severe neuralgic pains. Injury is often the exciting cause and it is frequently bilateral. I have elsewhere claimed that herpes progeintalis is often the result of syphilis—being moreover a pure neurosis, due 1st. to syphilis, 2d. to worry, 3d. to over active therapeusis.† These causes bring about disturbed innervation and nutritive disorder.

Professor Otis, following Besiadecki and others, has shown that the predilection of syphilitic material for the papillæ of the skin, is due to the fact that it is at this point that the arterial, venous and intervening lymphatic capillaries come into the most intimate contact; in other words, that it is in the papillæ of the skin that the narrowest points in the circulatory and lymphatic flow are to be found. The affinity of the syphilitic process for lymphatic structures explains the rest, and we have at various points in the superfices of the body a localized heaping up of the so-called syphilized cells. We have, however, in the roseola, localized and circumscribed phenomena, which are not satisfactorily explicable upon anatomical grounds. Why does not the roseola appear in one continuous blush over the entire surface of the body? Is it not because the impression of the syphilitic poison upon the system is manifested through a vasomotor disturbance of the function of the sympathetic ganglia at certain terminals in the skin? Dr. Otis accepts the neurotic origin of the roseola, and it is a matter of surprise that he should seek for a local anatomical explanation of the development of, for example, the syphilitic papule. In view of the logical explanation of the roseola, would it not be fair to infer that a similar condition of affairs prevails in the case of the other eruptions?—i. e., that as a consequence of an impression made by the syphilitic poison upon the sympathetic ganglia, their trophic functions are disturbed with a consequent disturbance of nutrition and perverted tissue building at certain points upon the periphery or superfices of the body? I do not know whether this explanation of the secondary eruptions of syphilis has ever been advanced, but it has for some time appeared to me to be the most logical explanation of the phenomena of syphilis. It is particularly satisfactory from the fact that it covers not only the roseola and papule, but every other lesion which may occur throughout the entire course of syphilis.

There is perhaps no morbid phenomenon characteristic of active syphilis, which is more difficult of explanation on purely mechanical grounds, than the alopecia which occurs during the secondary period. Very few cases, if any, which are unmodified by treatment, escape this disagreeable symptom of the disease. Indeed, under the most careful and scientific treatment, a greater or less degree of alopecia is frequently observed. The shedding of the hair is limited chiefly to the scalp. The eyebrows are affected, but the beard is little if at all involved, as a rule. Other hairy parts of the body are not generally involved, even though there may be quite a general eruption over the surface of the body. Should destructive lesions occur in any situation supplied by hair, a temporary or even permanent shedding will be likely to result. The manner in which the hair is shed from the scalp, is most striking and characteristic in most cases; instead of there being a general shedding, the process seems to affect the scalp in spots, as a consequence of which, the head assumes an embarrassing piebald appearance, which he who runs may read. Otis and others attribute this alopecia to an accumulation of syphilized germinal material in and about the hair follicles, this deposit producing mechanical impairment of nutrition of the hair, as a consequence of which it is cast off.

Strange to say, however, if this theory be correct, lesions of the scalp of sufficient prominence to attract attention are quite rarely associated with alopecia. A few small papules, pustules and crusts are occasionally found, but hardly ever in sufficient amount to account for the extensive falling of the hair. It will be found, to be sure, that at the site of such lesions the hair invariably falls out. Now it seems to me, that if the syphilitic material had such an affinity for the scalp as would be indicated by the theory of localized cell deposit, the cutaneous lesions of this portion of the integumentary surface would be especially pronounced. It is hardly probable that in the presence of such an affinity for the hair follicles, a deposit of syphilitic material would accumulate to such an extent as would be sufficient to deprive the hair follicle of nutrition and yet fall short of a sufficient amount to be perceptible externally. There may be, it is true, more or less accumulation of germinal material in the hair follicles, but there yet remains the necessity for an explanation of its deposition in this location.

From these considerations I have been led to believe that the alopecia of syphilis is precisely similar to that which occurs in other diseases as a consequence of local malnutrition incidental to disturbed nervous supply and general malnutrition. In certain fevers, for example, shedding of the hair is quite common during convalescence—perhaps well along in the period of convalesence. This is due to a general perversion of nutrition which must necessarily affect an epidermal structure of a low grade of vitality, such as the hair. This perversion of nutrition is in my opinion due to a greater or less extent to disturbance of

* Duplay, Raymond and Leloir report cases of nervous syphilis preceded and heralded by herpes.

† Paper read before North Texas Med. Soc., Feb. 8, 1890. *Phila. Med. News.*

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the functions of the sympathetic nervous system—in other words, to tropho-neurosis. Various morbid disturbances of the nervous system are known to effect the vitality of the hair. Thus fright has been known to induce a blanching of the hair, unquestionably dependent upon perversion of the functions of the sympathetic ganglia. Neuralgic affections of the head are well known to produce both blanching and falling of the hair, perhaps limited to the distribution of the terminal filaments of a single nerve. As a further illustration of the relation of malnutrition, probably dependent upon perversion of the functions of the sympathetic nervous system to falling of the hair, may be mentioned the alopecia resulting from the excessive use of arsenic internally.

The relative immunity which the beard of the male enjoys as compared with the hair of the scalp, is probably dependent upon the greater intrinsic strength of the hair growth and the higher vascularity of the tissues of the face.

Traumatism may cause alopecia areata by an impression upon the sympathetic system. Leloir, Dumesnil and others have recorded cases of this kind. Joseph's experiments are quite significant in this connection. This experimenter divided the spinal ganglion of the second cervical nerve in cats and thereby produced baldness.

It would appear that syphilitic infection not only has a peculiar affinity for the sympathetic nervous system, but that this affinity is particularly marked in the case of the upper or cervical portion of the sympathetic. The proportion of lesions about the head, face and mouth, is relatively much larger, even under the best of treatment, than in other portions of the body. The parts supplied by the fifth cranial nerve appear to be particularly susceptible. Very many of the cases with which I meet in private practice escape, under appropriate treatment, general cutaneous eruptions. Few, indeed, no matter how thoroughly they may be treated, are not affected at one time or another with lesions of the lips, inner surface of the cheeks, tongue, throat and scalp. I find that a certain degree of falling of the hair, sore throat and mucous patches are to be anticipated in spite of the most careful treatment in the larger proportion of cases.

I have had in my experience very few cases in which with conscientious attention to treatment the patients have been annoyed by cutaneous eruptions, bone lesions, etc., but I have had a number in which oral and pharyngeal lesions proved a source of great annoyance. Even in the late and sequelar syphilides this same predilection for the structures of the face and throat is manifest. Cases are frequently met with in which the initiatory and active periods of the disease have been passed through without serious trouble, when suddenly and without warning, serious destruction of the nasal, palatal and maxillary bones has developed. Many cases of serious destructive ulceration of the pharynx are met with as remote manifestations of syphilis in cases in which annoyance has been escaped during the earlier periods of the disease.

The affinity of the syphilitic process for the iris may possibly be explicable from the important function of those filaments of the sympathetic system supplied to this part. In other words, the local accumulation of cells in the iris may be incidental to disturbances of nutrition dependent upon the impression of the syphilitic poison upon the central sympathetic system.

Even in congenital syphilis we can see evidences of tropho-neurotic disturbance. The peculiar affinity of the syphilitic process for the epiphyso-diaphysial junction of the long bones is strikingly suggestive. It is here that the processes of growth and nutrition are most active and tissue-building the most rapid. It is consequently at this point that disturbance of the trophic function of the sympathetic which presides over the physiological processes of nutrition and growth would be most likely to be manifested by pathological change. A perversion of the function of the sympathetic would result in imperfect differentiation of the cells of the part, and as the rapidity of proliferation of cells is in inverse proportion to their degree of differentiation a heaping up of the young material is to be expected. Associated with this imperfect differentiation of cells, we have a tendency to degeneration, for it may be formulated that the tendency to degeneration is also in inverse ratio to the degree of differentiation. This imperfect differentiation with a consequent tendency to degeneration of young germinal material is the characteristic feature of all the lesions of syphilis, no matter what stage of the disease they may develop.

The physiological effects of the remedies upon which we depend for the cure of syphilis are evidences of the neurotic character of syphilitic phenomena. It is shown that mercury and iodide of potassium, although very efficacious in syphilis, are in no sense directly curative, their beneficial effects being dependent upon their power of inducing fatty degeneration and elimination of the products of the syphilitic process rather than upon any special controlling or antidotal effect upon the poison *per se*, whether this poison be a virus, germ or cell. In reviewing the opinions of our best syphilographers regarding the treatment and prognosis of syphilis, one is impressed with the idea that syphilis is a disease which runs a natural course in spite of treatment, the physician being incapable of doing more with his remedies than to remove the effects of the disease as fast as they appear, thus preventing as far as possible permanent damage to the affected tissues. As far as aborting the natural course of the disease is concerned, he is absolutely helpless, and apparently his success in the treatment of the disease is inversely to the vigor of his attempts to antidote or stamp it out.

If the neurotic theory of the essential condition in syphilis be correct, we have, in our efforts to discover a specific remedy for syphilis, been necessarily led away from those lines of research which would lead to a correction of the principal element in the production of the syphilitic phenomena. The severity of the results of syphilis would appear to depend (1) upon the individual susceptibility of the nervous system of the patient; (2) upon his constitutional condition, and, incidentally, on the resisting power of his tissues; (3) upon the action of remedies; this being by no means the most important consideration.

The involvement of the fauces and pharynx characteristic of secondary syphilis, has been explained upon the ground of lymphatic engorgement, the primary cause of which is the abundance and superficial character of the lymphatic capillaries of the affected parts. It is a noteworthy fact, however, that there is but little swelling, pain and tenderness accompanying the

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syphilitic sore throat, provided ulcers be absent. There is also, in the early part of the disease, little or no tendency to ulceration in the majority of cases. There is comparatively little heaping up of syphilitic material. These characters would lead one to suppose that there is something behind the localized proliferation of cells—if such exist—something, too, which will explain the appearance of morbid phenomena at this particular point aside from mere anatomical pecularities. For obvious reasons it has not been clearly shown whether the same efflorescence and engorgement does not occur in the other portions of the alimentary canal in the early period of syphilis. Admitting that there is a diffuse accumulation of cells in the pharingo-faucial tissues, there should be something more than local anatomical peculiarities to explain it. Is it not a result of vaso-motor changes similar to those which prevail in the roseola and which are due to the impression of the syphilitic poison upon the central nervous system? The same condition, in all probability, prevails in other portions of the alimentary tract, which are, as is well known, intimately associated with the sympathetic nervous system. If is only at this point, however, that the parts affected are so superficial as to be open to observation. At this point, moreover, causes of irritation are more prevalent than in other portions of the alimentary tract. The food which is swallowed, rapid changes of temperature incidental to the function of respiration or to the ingestion of fluids at various temperatures; the use of the voice, the contact of irritating secretions from the nose and the inhalation of irritating substances from the atmosphere might quite rationally be expected to contribute to the tendency to localization of the syphilitic process in the throat.

In the presence of such local causes of irritation, vaso-motor disturbance incidental to the impression of the syphilitic poison upon the central nervous system might be determined at this point, while absent in every other situation.

As we have seen, the vaso-motor impression which underlies the development of the roseola is substituted later on for a more or less pronounced trophic disturbance, as manifested by the heaping up of neoplastic material, the development of pus, the occurrence of ulcerations, etc. *Pari passu* with the supervention of this trophic disturbance in the case of the skin we have a similar state of affairs in the pharynx and mucous membrane of the mouth, as manifested by the development of mucous patches, ulcers, and macular eruptions, the latter being particularly marked upon the roof of the mouth.

On careful observation of successive crops of lesions in syphilis, it will be found that the tendency to destruction of tissue and to the involvement of various important functions of the body grows more pronounced as the case progresses. We see, therefore, in watching a case from its inception, the gradual supervention of a trophic upon a vaso-motor disturbance, and as the case progresses this trophic aberration becomes more and more pronounced until finally in the period of the so-called sequelæ we have marked destruction of tissue in various situations—a destruction so marked as to have led to the impression at one time that the syphilitic poison produced in such instances corrosion of the tissues. In the absence of a corrosive power of the syphilitic poison—and as we know its infectious properties decrease as the case progresses—the only logical explanation of the serious effects of late syphilis is the theory of tropho-neurotic disturbance.

Let us glance at the series of morbid phenomena in a typical case, and the truth of the foregoing assertion is at once apparent:

First, we have a macular eruption or perhaps an efflorescence of the skin, which is not at all raised above the surface. This (the roseola) does not produce any destruction of tissue. Later on we have the development of papules; a little later in the natural order of succession, pustules, perhaps followed by ulceration. Still later we have marked ulceration of an echthymatous or perhaps rupial character; interspersed with these various later lesions or occurring alone, we may have a development of scaly lesions—sometimes tubercular syphilides. Coincidentally with the papules we have the appearance of sore throat, followed later on by mucous patches and perhaps ulceration. As the case progresses the bones may be affected; iritis may occur; well along in the period of sequelæ, necrosis of the bones may develop. It will be found that as the intensity of the infection diminishes, the tendency to suppurative processes and to destruction of tissue increases. The later lesions are found to be frequently associated with disturbance of a known nervous character, cerebral syphilis in its various forms being quite apt to occur.

The exceptions to the gradual increment of severity of syphilitic lesions are so unusual that they are now designated as precocious. Malignant or precocious cases of syphilis are explicable in my opinion upon the theory of idiosyncrasy.

It is in the later secondary and sequelar lesions of the disease that the apparent tropho-neurotic character of the manifestations is most pronounced. I had long been impressed with the peculiar course of some of the osseous lesions of late syphilis, particularly those affecting the head and face. It had seemed to me that the destructive effects exerted by the morbid process upon the bony tissue, was greatly disproportionate to the objective and subjective phenomena which preceded the actual destruction.

For example, I think that upon reflection it will be found that the objective morbid phenomena which precede the necrosis *en masse* of various proportions of the palate, superior maxillary and nasal bones, are comparatively slight when we take into consideration the fact that the affected bone is entirely destroyed. Indeed, it often seems that the first objective phenomena perceptible in cases of necrosis of the parts mentioned, is incidental, not to destruction of the bone, but to an attempt on the part of nature to rid the tissues of offending foreign material. Thus I have observed cases in which the greater portion of the palate was entirely destroyed, yet very little manifestations of trouble were apparent until suppuration occurred with a small point of ulceration of the soft parts covering the bone and the discharge of a small quantity of pus—a quantity, by-the-way, so small as to be entirely disproportionate to the extent of the morbid process. On passing a probe into the small sinus thus formed, one who is not thoroughly conversant with the peculiarities of such conditions, would quite likely be surprised to find that a large portion of the bone is dead and perhaps loose in the tissues. It will be found upon observation of processes other than syphilitic, which produce necrosis or

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caries of bone, that there exists prior to the death of the osseous structure, quite pronounced objective phenomena in the way of pain, swelling and deformity of the part, these symptoms indicating the existence of proliferated inflammatory material which subsequently produces, by simple pressure, destruction of the vitality of the bone. Those morbid phenomena in syphilis which involve bone or periosteum in the early part of the course of the disease are accompanied by relatively more prominent objective phenomena than those late lesions which are now under consideration; yet, at the same time, they are rarely followed by caries or necrosis. These processes, it seems, are reserved for the late secondary or sequelar period of the disease. Thus it will be seen, that although the local process is apparently more severe in early cases, destruction of the vitality of the bone is not so likely to occur. There is a marked difference between the nodes and diffuse subperiosteal swellings of early syphilis, and the condition of the bone and periosteum, which precedes necrosis *en masse*, or for that matter, caries, in the late stages of the disease. In addition to the disproportion between the degree of destruction of bone and the objective phenomena preceding such destruction, another point worthy of comment, is the fact that syphilis possesses the power of dissecting out definite portions of osseous tissue, apparently by cutting off their nutritive supply in a manner as cleanly as it could be done by the knife. Thus I have specimens in my possession of the intermaxillary bone, portions of the alveolar process of the axilla, the malar and the ossæ nasi, which became necrosed, loosened and were removed from cases of late syphilis. These fragments of bone present as natural a conformation in many instances as in their healthy condition.

As far as I have been able to observe, there seems to be a special predilection in cases of late syphilis for those parts supplied by the fifth nerve, indicating that the portion of the sympathetic system which presides over these parts is particularly sensitive to the syphilitic impression.

I have found in some instances the tendency to unilateral destruction of osseous tissue particularly marked. Thus the palatal process of the superior maxilla upon one side, or the superior alveolus on the other, may necrose and give way without the corresponding portion of bone becoming affected. Indeed, it seems that in most instances in which necrosis attacks the bones of the face, it is impossible to check the process until the line of demarkation represented by the anatomical outline of the affected bone has been reached.

The peculiar manner in which one-half of a structure may be dissected away by the sequelar lesions of syphilis, is exemplified by a case of syphiloma of the tongue which recently came under my observation in which the sloughing of the organ was limited to the raphe. This case subsequently went on to malignant transformation. I removed the tongue by the galvano-cautery, the disease recurred, and the patient died of hemorrhage several months later.*

I have had several cases recently in which that portion of the superior maxilla corresponding to the intermaxillary bone was dissected out by the syphilitic process with the resultant loss of the incisor teeth, the remainder of the jaw remaining intact. There appears to be a peculiar predilection of late syphilis for this portion of the jaw. I have seen several cases in which caries occurred in this situation with a consequent loss of one or more perfectly healthy teeth. These cases have appeared to me to be so characteristic that I have come to regard loss of the incisor teeth without any apparent cause as almost positive evidence of syphilis.

An interesting case illustrating the unilateral limitation of some late lesions of syphilis came under my observation recently.

The patient was a gentleman who had an obscure history of syphilis, dating some years back. Several weeks before coming under my observation, ulceration began at the roots of the molar teeth upon one side and extended outward to the palate. When I first saw the case the ulceration had extended outward upon the hard palate for about three-quarters of an inch and forward to the median line, when it abruptly stopped. The appearance of the ulceration was quite typical. There was no disease of the teeth or jaws to account for it. Healing was quite rapid under appropriate anti-syphilitic treatment.

Another interesting case of a somewhat similar character:

The patient was a gentleman who had syphilis seven or eight years ago. For the last three or four years he has had occasional symptoms of the disease. A few months since ulceration occurred about the roots of the upper incisor teeth and was attended with slight caries of the intermaxillary bone. The process was checked by appropriate treatment, the teeth, which were loosened, finally becoming perfectly solid. About six or eight weeks after the ulceration was healed the patient consulted me for supra and infra-orbital neuralgia and hemicrania. This resisted all treatment except anti-syphilitic remedies. It yielded readily to iodide of potassium in large doses. Within a few days the patient has again consulted me for paræsthesia of the right side of the face, which he noticed for the first time while being shaved. His face having been excessively tender previously, he very speedily noticed a lack of sensibility under the razor. Associated with this paræsthesia there is obscure pain which he locates back of the eyeball. The *ensemble* of symptoms in this case points to central disturbance and evidence a manifest predilection of the sequelar lesion for the fifth cranial nerve.

The association of obstinate tubercular syphilides with nervous syphilis is well known. It seems that the danger of involvement of the central nervous system is directly proportionate to that of severe syphilides.

In considering the tropho-neurotic character of the late lesions of syphilis, I do not ignore the fact that syphilis may act directly upon the nervous system in several different ways:

1. By the direct effect of syphilitic deposit upon the nerve cells or fibers, or membranes of the brain and spinal cord.

2. By changes in the membranous envelopes of the brain and spinal cord.

3. By deposits in and about the blood vessels which induce circulatory disturbance.

* Apparent Cancerous Transformation of Syphiloma of the Tongue—Amputation by the Galvano-Cautery. *N. Y. Medical Record*, Oct. 26, 1889.

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4. By a proliferation and condensation of connective tissue which remains after the syphilitic material *per se* has been removed.

There is probably a difference in the late and early forms of syphilitic lesions in the manner in which the tropho-neurotic element is brought about. Thus it may be due in the *first* place, to a direct impression of the syphilitic poison upon the sympathetic nervous system. *Secondly*, upon direct pressure upon the nervous structures. *Thirdly*, upon a disturbance of function and nutrition of the nervous structures incidental to interference with blood supply.

It is probable that mercury acts upon the nervous system in very much the same manner as does syphilis. It is very difficult to differentiate late syphilitic lesions of the bones and of the mucous membranes from those directly due to the action of mercury. That mercury exerts a powerful effect upon the sympathetic nervous system is, it seems to me, shown conclusively by the phenomena of ptyalism, which cannot be accounted for solely upon the theory of the production of irritation. The well-known power of mercury over the secretions is probably due to its influence upon the sympathetic ganglia. When the injurious action of mercury is superadded to syphilis, there is a more marked tendency to tropho-neurotic phenomena than in well-treated cases of the disease. Indeed, the excessive use of mercury often seems to determine the predilection of late syphilis for the bones of the head and face. It is quite as capable of producing necrosis or destructive ulceration of these parts, as is syphilis *per se*.

Positive demonstration of the dependence of the phenomena which I have outlined upon nervous disturbance, is of course difficult, but the inferences which I have drawn appear to me to be logical. In considering the question of trophic disturbances in their relation to destructive syphilitic processes it is well to remember the familiar physiological experiment of section of the sympathetic in the neck of the rabbit. The same experiment is also interesting as bearing upon the faucial congestion of early syphilis. The reddening of the ear of the rabbit, the inflammation and sloughing of the cornea incidental to section of the sympathetic are certainly suggestive. To carry the analogy of this physiological demonstration a little further, I would call attention to the serious corneal trouble which sometimes results from herpes frontalis *seu* orbicularis.

Has a Mania for Eating Brown Paper.

Etta Simpson, of Moncton, N. B., aged 17 years, went to sleep August 24th and has not yet awakened or taken any nourishment Miss Simpson has for some months had a mania for eating brown paper and would consume a large bag such as are used in grocery stores at a single meal. She has eaten scores of brown-paper bags, and it is supposed this mania has something to do with her illness. About a year ago she slept for five days, but was awakened by being bled by her medical attendants.—*Ex.*

Medical students in London are compelled to go through a course of four years' study, hospital attendance and lectures before being qualified to appear for the final examination. By an order of the General Medical Council of England, the term of preparation has been extended to five years.

Society Proceedings.

Chicago Medical Society.

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VARIOLATION.

(Continued from page 186.)

Regarding Gatti's relation to variolation, I will take the liberty of quoting directly from Bohn, who says: "No one penetrated more profoundly into the essentials of variolation than Gatti, and no other succeeded as well as he. Gatti is a wonderful phenomenon in the history of medicine in the past century. Nearly every page of his little book on variolation, astonishes one by its richness in ideas, and its advance over those ruling in medicine at the time. He was a thoroughly unprejudiced and positive observer; sharp and logical in conclusions, with a clever understanding of the nature of pathological experimentation, and knew how to give the correct answer to questions coming before him. * * * One can have but a very superficial idea of variolation in the previous century who has not studied Gatti's work, which is characterized by its clear method, modesty and great humanity."

Gatti's instructions as to the treatment of persons to be inoculated carry us back to our youthful days, when we had to be prepared for vaccination with cooling salts and other restrictive dietetic measures. He says: "All physicians have said that the persons to be inoculated must be: first, prepared; second, such inoculation-traumata must be made as to allow for a free outflow of the inoculated material: third, as soon as the eruption appears, the patient must be treated with all the care and assistance possible to the physician. On the contrary, I say: patients need no preparation: the physician should never provide for the outflow of the inoculated material by such wounds: and the inoculated person should be left to nature." "To prepare an individual for inoculation is the same as endeavoring to give him a certain predisposition which one considers necessary in order that the inoculated disease shall do him the least possible harm. Is there such a disposition, or can such be produced? We do not know it and hence cannot produce it. Health itself is the best condition, and this alone has one to consider in variolation. An unhealthy person must be first made well before he can be inoculated, but those who are healthy are already prepared for it. Every special preparation on the part of the physician is, however, dangerous. Only those things must be avoided which are liable to interfere with the health. All conceptions as to the preparation of the individual, all endeavors to purify or refresh the blood, or to prevent the inclination of the blood to inflammation, no soul in the world understands and all endeavors in these directions can only lead to the injury of the individual."

Of inoculation he says: "The material with which we will inoculate must be introduced into the vascular layer of the dermis. The variola virus is so intensive that the most infinitesimal amount is as serviceable as a great mass. It is sufficient therefore to

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simply scratch the epidermis with a needle moistened with the virus, or push it gently for a short distance under the same. This way was first introduced by the inoculators, mostly women, in Greece and Italy, and gave most satisfactory results. Only the physicians have sought to replace this simple and efficacious method by more artificial ones and complicated apparatus."

The barbarism of the physicians of the time cannot be over-estimated. Extensive incisions were made in the flesh and the cavity filled with thread saturated in the secretion of diseased persons, or even pieces of their filthy clothing placed therein and held in place by bandages. In other cases, a whole skein of thread would be soaked in such secretions and drawn through the flesh, as a seton. The terrible results and unfortunate complications of such methods can be well appreciated at present, and the value of Gatti to the world better understood now than ever. His motto was, "*Inoculate cleanly and delicately, and all after treatment is unnecessary.*" It is a matter of question if that advice is not as applicable to-day as when he wrote even with our improved methods of obtaining virus. I have seen physicians vaccinating the poorer class of school children use the same lancet to scarify the arm on one after the other, with no attention given to washing the arms, that in many cases were dirty enough. To my mind such a procedure is criminal carelessness and does much to bring vaccination into evil repute and furnish just and apparently reasonable objections to its opponents. It suffices to say that Gatti's success as a variolator was phenomenal, and that his reputation extended all over Europe. So great did his skill in diagnosis and prognosis become that he could almost invariably select the correct type of the disease from which to produce the same mild form in the persons inoculated. Very few pustules followed his treatment and only slight constitutional disturbances in most cases. In fact it is due to Gatti alone that variolation became a reasonably safe procedure between the year 1660 and the introduction of vaccination by Jenner.

OBJECTIONS TO VARIOLATION.

Variolation was not only resorted to as a strictly prophylactic measure, but also that the march of the disease might be hastened, and every one in a community, not previously diseased, might have it at the same time. Variolated persons were, however, as dangerous to healthy ones as those acquiring the disease in the natural manner. They had the small-pox and hence could be the means of extending it. *Therefore,* while most extensively practiced, and in many cases made obligatory by law, on the outbreak of small-pox in a locality, still such places were treated as pest centers, and all communication between them and the surrounding world was shut off until the disease was declared at an end, and the locality cleansed and disinfected, as best they knew how.

The cleverness of these early variolators cannot be over-estimated, They insisted that persons to be inoculated be kept by themselves, or from general intercourse with the people for from twelve to fourteen days previous to the operation, in order to avoid as far as possible, the danger of natural infection. They discovered that early childhood was the best time to inoculate, and also that the virus mitigated somewhat in virulence when transmitted from individual to individual. They also paid strict attention to using the clear lymph before the eruption became pustulous, and even collected it in fine glass tubes for conservation. The crusts were also pulverized and so preserved. They found that certain persons were immune toward variolation, about five in one hundred, which, singularly corresponded with the percentage of immunity noticed in natural outbreaks of small-pox. It is easily to be seen that, at the best, variolation was a somewhat dangerous procedure: not only could it extend the disease, but fatality sometimes followed it, the percentage being about one to one hundred. Nevertheless, it was a vast advance in prophylaxis, as can readily be seen by comparison with the death rate from the natural disease. Then again, it was found very difficult to exert a proper control over all the inoculated persons, as they were frequently scattered through the community, thus making centers of danger wherever they might be. Notwithstanding all this, there is no doubt but what it proved a great blessing to humanity, and was the means of saving thousands of lives and much misery.

While variolation was forbidden on the continent of Europe, soon after the discovery of vaccination, it was continued in England until the year 1840, and practiced fully as much as vaccination, when it was also forbidden. It is still practiced, however, among many of the people of Asia and Africa.

JENNERISM.

The word "vaccination" is derived from the Latin word "vaccina," of or from a cow, and expresses the transference of the disease known as the cow-pox, "vaccina," from cows to man. There has been much discussion in the past, as to the true nature and origin of cow-pox, without any uniformity of opinion having been arrived at. To my mind it seems as if the observers were almost entirely without ordinary powers of reflection and the ability to draw sequential conclusions. Variola or small-pox has been given different names according to the species of animals affected, as V. bovina, equina, ovina and humana. The fact that the inoculation of an animal of a given species from one of another species afflicted with the variola common to it, generally protects the first from either natural infection, or the inoculation of the disease common to its species, seem never to have been properly appreciated. To my mind it indicates a common origin, and that there is but one variola.

The two malignant forms are those seen in man and sheep, while in cattle and horses the disease has a benign character. Sheep have been protected against variola by vaccination from cattle, and cattle and human beings by ovination from sheep. In fact ovination of human beings was once looked upon as fully equivalent in preventive value, to vaccination.

As has been said, these facts of general prophylactic relations between the various variolæ surely indicate but one original form. Whether that point can ever be distinctly decided may be doubtful but there is no doubt whatever but what we can at once deny all idiopathic attributes to variola in cattle and horses, and emphatically assert that as diseases sui generis they should have no recognition. In fact, in both cattle and horses, variola fails its one essential characteristic. *It is not contagious.* Transmission by means of the milkers does not constitute contagion.

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The transference, inoculation, of either human or ovine variola to cattle through a continued series of those animals soon mitigates the virulence, so that when again inoculated upon the original species, the contagious factor has been lost. But this is another most valuable pointer in the direction of the original variola. In the days of variolation the most celebrated observers all agreed that the virus of small-pox itself became mitigated on being transferred from man to man through a large number of generations, or individuals. No such phenomenon as this has ever been observed in sheep-pox. It does not lose in virulence in being passed from sheep to sheep. On the contrary, sheep-pox becomes mitigated by transference in all the animals it has been attempted on, man, cattle, rabbits, goats and horses—but the contrary experiments have never been essayed. Vaccina has never been carried through sheep for a long series of generations, nor has small-pox, nor the eruption in horses. All this demonstrates one fact, that if every other kind of variola loses in virulence even by transmission in its own species, (using the accepted idea of specific variola) except that of sheep, then the ovine organism provided the most suitable nutrition for the preservation of virulence alone—contagiosity, the human next, while in cattle and equines it is soon lost altogether.

As a matter of experiment and great pathological interest it is important to endeavor to build up vaccina to contagiosity again in sheep, if it can be done. It is singular that observers should have looked upon the bovine and equine complications as idiopathic when in the former it is limited almost entirely to cows, and in both is not a natural contagious disease, only extending by accidental transmission.

It is a matter of absolute certainty that vaccina either owes its origin to the human or the ovine disease, most probably the former: and that it was transmitted to cows in past ages in some way by milkers, who also took care of their friends diseased with small-pox, and then the eruption was transmitted in the same way, by the milkers, from cow to cow in a herd, and in this way the disease acquired a constant degree of mitigation—in fact, absolutely lost its virulence, or contagiousness, but still retained the prophylactic principle. Right here let me make a statement which seems to have escaped notice, or expression at least, and which is of the utmost importance in the study of preventive inoculation: what does this peculiar department of vaccina teach?

The very fact that of virulence, contagiousness, of small-pox having been lost in the change from variola to vaccina, *shows us that the germs of non-recurrent diseases have the ability to produce two different chemical materials—one pathogenic, the other prophylactic, and that tests of virulence have no value or control in the question of prevention.*

Later on we will return to this question in detail.

It seems never to have been properly appreciated that there is not on record one single eruption of variola in cattle or horses of a general or epizootic character. As a herd disease, under natural or free conditions, we have no record of it. This again tends to support the hypothesis that the disease in these two species found and finds its origin in the small-pox of man, rather than in the variola of sheep.

Again, as strong proof as can be brought to bear in favor of both of these suppositions, and of vaccination itself, is given by the fact, that with the generalization, or compulsion, of vaccination, not only has small-pox been brought under most wonderful control, but cow-pox has been almost entirely lost sight of.

While there have been cases of small-pox every now and again, and sometimes quite a number in a locality, no one ever hears of a case of cow-pox, and seldom of anything causing a suspicion of the same.

Bohn says, that while vaccination had its Jenner, it was never fortunate enough to have had its Gatti, as did variolation. When I read that passage I could not but think that the worthy German had spoken in ignorance and that vaccination had indeed had one to take part in its development, one the equal of the great Italian in every respect, one whom we should all delight to honor and to whom this country owes a monument of gratitude, if humanity does to any man, in its development on American soil. I allude to the late Dr. Henry A. Martin, of Boston, the introducer of animal vaccination into this country; a man with more sterling manhood, a more honest brain and the most comprehensive scholar it has been my fortune to meet among the physicians of this country. In fact, I will go further and say, that from the standpoint of a fearless manhood and a devoted and true physician, Henry A. Martin was the only whole man I have yet met in the American medical profession. He was no trimmer; no politician; in fact, he was without policy, as every man should be where truth is concerned. Most physicians in this country are trimmers. They "trim" their professional sails to suit the theological or political breeze or social conditions. MEN are so scarce! Dr. Martin spent a great deal of money trying to find a genuine case of genuine cow-pox in this country, and during his many years of earnest study, found but just one. I visited some cases of eruptions in the teats of cows with him and have been called to many others since, but in none of them has the trouble had any close resemblance to vaccina.

It is the general opinion that Jenner discovered vaccination, and it is for that that he has been honored and credited. Jenner's discovery was the humanization of vaccina; animal vaccination, true vaccination, is of much later origin and owes more to Martin for its generalization than to any one else, but is not the exclusive right of any one man. Jenner's method was to take vaccina from accidentally inoculated human beings and then to pass it indefinitely from person to person. Probably the very crusts or scabs used on us in our youth were direct derivatives of those first originated by Jenner.

That cows had an eruption on their teats which could be conveyed to human beings and which did prevent small-pox in such individuals was known long before Jenner's time, seems to be a matter beyond all question. Even vaccination itself was practiced in England by one Benjamin Jesty on his own wife and child, in 1774, twenty-two years before Jenner inoculated, is equally true.

That vacinna in some way was transmitted to dairy people and prevented small-pox, was also known to the common people in Germany and other parts of Europe, but no practical use was made of the knowledge. It remained for Jenner to do this. Jenner supplied the exact and trustworthy foundation to a matter of popular belief among a certain class of people, but of which the majority had no knowledge. Jenner's work was thoroughly original. There is not

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a particle of evidence going to show that he knew anything about the vaccination of human beings by a few others before he attempted it. Not one of those men gave any exact study to the subject, while it is said that Jenner studied and observed and weighed all the facts for thirty years before he attempted to prove his observations and fortify his conclusions by direct experiment on man. This was done on a boy named Phipps, the 14th of May, 1796. But this boy was not vaccinated from a cow, but from one Sara Nilmes, who had been accidentally inoculated from a cow, being a dairy maid. The boy resisted all attempts to transfer small-pox to him by variolation.

It is doubtful if Jenner ever resorted to vaccina itself, that is, to a diseased cow for his original material, but invariably took his stock from human beings. This should be called Jennerism or Jennerization.

The one striking peculiarity of this and vaccination in contradistinction to variolation, is that the inoculated individual is not contagious to its own species. This is a very striking example of the true meaning of the word "contagion" which, as has been discussed elsewhere, seems to be entirely beyond the comprehension of the medical profession and investigators with but very few exceptions.

Scycophantic worshipers of Robert Koch, and even the Master himself, are respectfully referred to this example and asked to ponder a moment that they may learn that contagion and inoculability have no necessary relation; that contagion really means that the point or locus of the primary origin of the inficiens is a diseased individual.

As has been stated, the very strongest examples of the value of vaccination is not only the very few outbreaks of small-pox which now occur, but also the almost total disappearance of cow-pox among the cattle of those people where any exact control of the question can be looked for. Statistics as to the value of inoculation can have but little additional importance, still a few are appended.

TABLE SHOWING THE EFFECTS OF VACCINATION.

Period of Observation.		Place of Observation	Average annual death-rate from variola to the million population.	
Before Vaccination.	After Vaccination.		Before Vaccination.	After Vaccination.
1777-1806	1807-1850	Lower Austria. [burg	2,484	340
" "	" "	Upper " and Salz-	1,421	501
" "	" "	Steyermark.	1,052	446
" "	" "	Illyria.	518	244
" "	1838-1850	Triest.	14,046	182
" "	1807 "	Tryat.	911	170
" "	" "	Bohemia.	2,174	215
" "	" "	Austria—Silesia.	5,812	198
" "	" "	Galicia.	1,194	676
" "	" "	Buttovina. [Prussia.	3,527	516
" "	1810 "	Province of East	3,321	556
1776-1780	1816 "	Poland.	1,911	743
" "	1810 "	Brandenberg.	2,181	181
" "	1816 "	Westphalia.	2,643	114
" "	" "	Rhein—Province.	908	90
1781-1805	1810 "	Berlin.	3,442	176
1780	" "	Pommerania.	1,774	190
1774-1801	" "	Sweden.	2,050	158
1751-1800	1801 "	Copenhagen.	3,128	286

Hirsch, Handbuch, d. Geographischen Pathologia.

"The Utility of Vaccination." The deaths from small-pox in Germany, where there is compulsory vaccination, during the years of 1887-1888, were 1.8 and 0.8 per million respectively, while in Austria, were compulsion does not exist, the deaths were 583.7 and 640.4.—*Medical Record*, April 12, 1890.

Vaccination can be very properly termed the use of a natural method of inoculation, even though the virus is now kept up by the artificial transmission of vaccina from calf to calf. It is not the discovery of man. So far as reliable information is at hand there is no record of the discovery and actual demonstration of the true germ of variola, though the "Culture of an artificial vaccina virus," by a "Russian physician," which is as effective as the genuine, vaccina was reported in the issue of Jan. 18, of the Journal of the American Medical Association. This assertion must be taken "cum grano salis," as no mention of such a discovery seems to have been made in any of the special journals of bacteriological research. So far as memory serves me, nothing but cocci have this far been discovered in the eruptions of variola or vaccina. I think, when discovered, that the germ of variola will be found to be a very delicate anaerobic bacillus, and spore-bearing at that. Otherwise we cannot account for the long time which clothing, or other material, polluted by small-pox patients, retains its virulence. No non-spore-bearing organism that we now know of retains its virulence for such a length of time under such adverse nutritive conditions. I am also of the opinion that most of the endogenous germs will be found to be anaerobic.

A FEW WORDS AS TO THE OBJECTIONS TO VACCINATION.

The opponents of vaccination base their opposition upon the dangers of the transmission of other diseases with which the individual may be afflicted at the time, and from whence the virus has been derived. These objections are more applicable to the transmission from human beings to human beings than in regard to the use of true vaccina directly. To my mind, however, they will scarcely hold water when we come to consider them critically. Take for instance syphilis. If, as is the case, it is at present impossible to positively isolate the germ of that disease, or even to perform auto-inoculation save from a positive syphilitic lesion. If we cannot in any way discover that germ at present, how can it be possible to transmit syphilis from an arm or locus in which there is no syphilitic lesion? It seems to me almost impossible. The same is true of tuberculosis.

The unpleasant complications following vaccination, when scabs were used, or from person to person directly, were due more to some organism which had gained access to the scab from outside, or to the carelessness of the inoculator regarding the cleanliness of his instruments than to anything else.

The criminally careless manner in which vaccination is even done to-day by too many inoculators has already been noticed and is absolutely unpardonable in these days of exact antiseptic and in general scrupulously clean surgery. In such a simple matter as this apparently is many physicians appear to neglect precautions they deem absolutely necessary in their operations. And yet we even now frequently see erysipelas or purulent complications follow. If the virus is properly collected these things should never occur.

More precautions than are now used should be taken in the collection of the virus from calves. Why should all the points and instruments used not be completely sterilized? That they are not goes beyond question.

The generally favorable results following the use of vaccine points by ordinarily careful physicians shows that the danger of unpleasant complications has been altogether over-estimated and magnified by those opposing this valuable prophylaxis. Still, as such does exist, it seems as if some control over these matters should be exercised by law.

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The danger of using diseased heifers, especially tuberculous need not exist, as I know from a long personal acquaintance with the senior and junior Dr. Martin, where every care is used in collecting the stock. The heifers should be collected some time in advance and their temperature taken twice a day and a general observation of their condition practiced. Any animal showing the least departure from normality in any direction, should be peremptorily rejected.

We will now for a moment give our attention to

PASTEURISM.

The world owes an unpayable debt to Louis Pasteur, for to him is due, more than to any one else, the reopening of the field of experimental preventive inoculation, and in directions never before thought possible of offering any practical advantages. But even he has not touched upon the most important work, which is the prevention of the non-recurrent diseases of child life, most especially scarlet fever, which is to-day the greatest scourge that threatens humanity in civilized countries. Pasteur is an explorer in an almost unknown sea of investigation. The "Gates," are still but, "Ajar." They are not yet open. Many others are trying to enter. Some few can glance over the threshold but the haven of success is yet a long way off.

While I do not accept the results of Pasteur's anti-rabies inoculation, I most cheerfully credit him with his earnest endeavors and the instructive value of his success in anthrax, hen-cholera and rouget in the hog. It may be well for me to state why I do not believe in Pasteur's method of preventing rabies.

First: there is not a particle of evidence to be found in the long historical record of this disease that it is non-recurrent in character. Not a single case of natural recovery in man or beast has ever been reported where the history of its origin was undoubted and the phenomena presented unquestionable. Hence, we have no natural foundation to warrant the hypothetical possibility of preventive inoculation.

Second: Pasteur's statistics are not honest. Not one of those Newark children were ever bitten by a mad-dog. Two were left at home, and nine or ten dogs known to have been bitten by the suspected dog were kept confined over three months. Nothing ever happened to them. While the dog was "mad" enough, he was not "rabid." He did not seek to bite any one or thing, but did bite those in his way while running. It was a case of simple frenzy from an unknown cause. Dogs are often attacked thus, without rabies having anything to do with it. Pasteur still keeps those children in his statistics, though he has been fully informed as to the true nature of the case.

Third: Pasteurism in connection with rabies has become a regular mania in certain parts of Europe, especially France, and rabies or hydrophobia bears a direct relation thereto. This is easily to be seen by glancing at the statistics of rabies in Prussia for a series of years. Viz:

1876-7, 0: 1877-8, 6: 1878-9, 2: 1879-80, 8: 1880-1, 10: 1881-2, 6: 1882-3, 4: 1883-4, 1: 1884-5, 0: 1885-6, 2: 1886-7, 1.

All suspected or rabid dogs in Berlin are brought
› the veterinary school. This includes every dog
mplained of as having bitten a human being. Of
's number rabies has actually resulted:

1878-9, in 5: 1879-80, 1: 1880-1, 11: 1881-2, 3: 1882-3, 1: and none since then up to June 23d, 1889, when I received my report. In the whole German Empire there were but five cases of hydrophobia reported in man in 1886, and but four in 1887.

From 1886 to 1888 there were 40 cases of hydrophobia reported in Prussia, and in 1886 and '87, only 9 in all, in Germany.

Now let us look at the statistics given in Pasteur's "Annals."

No. persons treated.	Rabies said to have been demonstr'd surely.	Diagnosed by Veterinarians.	Suspected.	Total.
Dec. 1888.	45	77	20	142
Jan. 1889.	32	88	22	142
Feb. "	52	90	18	160
Mar. "	42	95	32	169
Apr. "	30	122	29	181
May "	28	149	36	213
Jun. "	24	115	30	169
July "	19	111	38	173
Aug. "	15	97	33	145
Sep. "	15	80	16	111
Oct. "	19	88	16	123
Nov. "	20	99	16	135
Total,	341	1211	307	1853

The majority of these come from France, and the French Possessions in Algeria. Does any sane person think that there is this vast difference in the prevalence of rabies in human beings between France and Germany? If so, I am not one of them. If so, no more striking example of the inefficiency of the French Government, in comparison to that of Germany, in its veterinary police service and guardianship of the public health, can be found.

For three years in Nebraska, I vainly tried to obtain possession of an actually rabid dog, and while a vast number of dogs were reported to have been bitten by such, not one would go rabid for me, after it had been so bitten. I do not deny the disease. I simply deny its prevalence to any such degree as Pasteur's statistics seem to show. I simply do not believe them.

To show how unreflectingly even educated writers will quote such statistics, the following is taken from the "*Times*" and "*Register*," of Philadelphia, of April 12th, 1889:

PASTEURISM IN CUBA.

At the Bacteriological Laboratory, in Cuba, 306 persons have been treated by the "double intensive" plan. Of these, only two died after going through the full course; a mortality of 1.63 per cent. All these cases were bitten by dogs proved experimentally and clinically to be rabid, *or, at any rate*, "suspect." That the operations were conducted with due conservatism, is indicated by the fact that only 306 were inoculated out of 700 applicants.

The opposition to Pasteur, if it still exists, has dwindled down to an infinitesimal point."

Even in these cases, not one case was known beyond question to have been bitten by an actually rabid dog, for it is admitted that, " at any rate, they were 'suspects' only." And yet, the editor says: "the opposition to Pasteur, if it still exists, has dwindled down to an infinitesimal point." "306" persons scared half to death on suspicion. They were "suspects" only. We can "suspect" most anything to result from treatment based on such a "suspect" foundation. The foundation of "Pasteur's Institutes" should be treated in a most "suspect" manner. They should be treated as institutions of the utmost danger

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to the public. Hydrophobia, or Pasteur-mania, flourishes in direct proportion to their establishment.

Since my return to this country, from that sensational visit to Pasteur with the Newark boys, a very large number of such "suspects" have come to me, or have been brought to me by physicians, to obtain my opinion as to the desirability of "going to see Pasteur." Fifty-two persons is the number I have on record, but there were a few more, notably three, since I have been in Chicago.

"Mad dogs" were very "suspect," according to the story in each case. I talked to them calmly, ridiculed their fears, and they all left me apparently comforted. Not one went to Pasteur, and I think it can be safely asserted that no hydrophobia resulted, or I should have heard of it, and the papers been full of it, long ere this.

There is a vast difference between a "mad dog," and a genuine "rabid" one. The former, are frequent enough; the latter are as scarce as honest investigators in the United States.

There is still another very strong argument against Pasteur's anti-rabidism. The germ of rabies has not been discovered. This fact in itself is not very strong negatively, but when we take into consideration that rabies is a strictly wound-infectious disease in optima-forma: that it is a toxæma instead of a septicæmia, or perhaps better, toxic rather septic; that, as in titanus and many forms of toxæmia, the toxic producers remain at the locus traumatica, and that the poisoning of the organism takes place from there and goes on for some time, and, that constantly during that period, until a certian cumulation of such material in the nervous centers has taken place, it seems to me that the Pasteur method is self-evidently absurd. The toxic rabies element must be in solution (the nervous tissues only being saturated with it), and hence, though very abundant, perhaps, still not in such an excessively concentrated amount in the small piece of cord used that it can produce the effect claimed. There is altogether too much dilution.

If correct in the hypothesis that the toxic producer remains local, there can be no increase in the amount of poison introduced, save as made each day. The fact that the germ remains local indicates that in the trauma is the place to look for it, as in tetanus. Again, nowhere can I find record of one of Pasteur's artificially rabid dogs ever having conveyed the disease to healthy ones, as is the case in the natural disease, by biting.

These objections may seem too very finely drawn by enthusiastic worshippers of Pasteur, but it may yet be found that they have more foundation than appears on their face.

These objections to Pasteur on one point do not, however, detract from the importance of his work to the world in others in the least.

What may we really call Pasteurism?

The answer to this question brings us at once to the consideration of

ARTIFICIAL PREVENTIVE INOCULATION,

which I will discuss entirely from my own point of view, and base my remarks almost wholly upon my own work and its results. Pasteurism differs as much from Jennerism as does artificial preventive inoculation from vaccination, as practiced at present. Jennerism and vaccination consist in the inoculation of the cause of the disease, to be prevented thereby, bound upon or mixed up with the products of the disease, that is, as they are found in its specific lesion at a certain period of its development.

Pasteurism, or artificial preventive inoculation, or even inoculation in the most exact sense of modern experimental etiology, is quite another thing. Instead of introducing the cause mixed up with any products of disease, we isolate it therefrom, cultivate it, and by one of several methods found suitable, so mitigate the virulent activity of the cause, that we can inoculate without serious danger to the individual thus treated.

It has been a generally-accepted fact that all infectious diseases are due to a specific cause which belongs to some specific species of microscopic vegetable life. The scientific class to which these objects belong is the fungi, their special name being bacteria, or in common parlance, germs. It is not necessary to go into any description of the various varieties of these germs in an article of this kind, still it is necessary that we know a little something of the manner of action of that class in which we are momentarily especially interested. The diseases of animals in which Pasteur has been, beyond question, successful in preventing natural infection by his method of inoculation, the names of which have already been given, and to which may be added swine plague, the yellow fever, and Texas fever in cattle, as well as typhoid fever, are all what are known as forms of septicæmia or blood poison: the specific poison in each case being the direct result of certain unknown physiologic action on the part of the specific germ which causes each of these diseases. All these diseases have also another attribute in common, viz.: they are extra organismal in origin; that is, the place of primary development of the specific germ which causes each of these diseases, is outside the animal organism or in the earth or earthy material.

Though he has never to my knowledge stated it, still I think Pasteur should be credited with recognizing the fact that cow-pox was but mitigated small-pox, rendered, as has been said, non-malignant in character by successive generations of transmission from cow to cow in an accidental and unintentional manner. Pasteur endeavors to do this same thing intelligently. He but repeated the lesson thus learned in his first attempts at mitigating the action of the germs of anthrax, hen cholera and rouget by experimental inoculation in various species of animals and he found that while in some species a given germ acquired even more virulence than it possessed when taken from an animal in which it had caused the natural disease and kept on increasing in virulence for a time as he passed it from animal to animal of a certain species; still, on the other hand, the same procedure in another species of animal carried on through a long series not only caused the germ to lose in virulence but after a time they acquired a certain standard of mildness and could be safely used for inoculation.

This was imitating the results in small-pox. Pasteur went further. Such a method as the above is open to the very serious objection that, not only is an almost unlimited number of experimental animals necessary, but the expense would finally be such as to decidedly interfere with any practical benefits resulting. This led Pasteur and others to seek similar results in entirely different directions. They experi-

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mented in many ways, but the continued exposure of artificial cultures of given germs to a certain degree of temperature or their development in from 2 to 2½ pressures of oxygen for a certain time, have given the best and most trustworthy results. A most singular fact came from these experiments, which was *that when once a certain desired degree of mitigated virulence had been obtained by either of these methods, that cultivations of the same germs could then be carried on in the ordinary room temperature for an indefinite period, each succeeding generation retaining the same degree of mitigated virulence as the previous one.* The result has shown that a preventive virus against anthrax, rouget and hen cholera has been successfully made by these investigators, by one or the other of methods mentioned.

For a very valuable account of Chauveau's experiments in mitigating the virulence of bacillus anthracis in this way see *Times and Register*, Philadelphia, April, 1890.

Based largely upon the teachings and work of Pasteur nearly all investigators in this important field of research have been of the idea, and generally are at present, that a preventive virus can be obtained by the simple mitigation of the virulence of a germ of a naturally non-recurrent disease by artificial cultivation under certain conditions of heat, or oxygen pressure, or some other method, so that the introduction of such a culture in a given amount, produces simply a mild and non-fatal form of disease.

The practical results of inoculation or vaccination seem to confirm this idea. For myself, I was also of the same opinion until it was completely shattered by most extensive experiences and apparently positive experimental results.

It is but justice to myself to inform my colleagues, both investigators and physicians, that this business of "preventive inoculation" in swine plague is not of my own choosing: that I am bitterly opposed to it: that I feel it is disgraceful in one having, or making any pretensions of being a scientific investigator: that I think and know that all and every result of original research should be the property of the people: and I can truly say that, had I not the remote hope that the rewards of this distasteful business may be such as to enable me to build, equip and plentifully endow a laboratory and hospitals for the investigation of the non-recurring diseases of child life, where the poorest genius can have free opportunity to study and be educated, or pursue original investigations, that I would have nothing to do with it. I would not continue it for a moment, to enjoy even a handsome business income, but I hope the end desired may be attained, and that the medical profession will eventually justify the unprofessional means on account of the worth of the object attempted.

Self-respect forced me to resign my position as investigator in Nebraska on account of three years of uninterrupted intrigue and unlimited abuse and opposition excited against me by the Agricultural Department at Washington. No other course was open to me.

This inoculation against swine plague is a matter of more importance to the advancement of original research in this country than at first may appear to the casual observer. I can safely assert that so much success has been attained that it can no longer be open to a single doubt. Its actual practical value can only be estimated by large and extensive experiences continued for several years. Its present value and interest is, however, mainly scientific.

Havingly sufficiently demonstrated that inoculation will prevent swine plague, as Pasteur's work has been the initiative incentive to all investigations in this direction, so should this result have the same value in this country and be a stimulus to the most energetic and exact endeavors to develop protective inoculation against other non-recurrent diseases in our live-stock, but even more particularly those of our own species. If my work only succeeds in putting this stimulus in such activity that work will be inaugurated and earnestly continued and lead to the establishment of National and State laboratories, all that I have labored for will be attained and my life be pronounced a success. My interest is far more in inspiring and inaugurating true original research in this country, than in my personal success as an investigator. If the last can only lead to the first, then I am satisfied.

In this paper I unfortunately can only place before the world my failures, as in justice to my financial supporter I cannot publish the methods by which I have obtained success, much as it is my desire to, but something valuable can, I hope, be learned from my failures.

As has been said, I began the search for preventive inoculation in swine plague on the principle of the mitigation of virulence, so as to obtain a virus that would not seriously disturb the hogs and yet render them immune from disease.

At this time and place I will simply reassert that this has been done and in so many places and in so many hundreds of animals, that the fact is beyond the possibility of doubt.

From this non-virulent point of view the first desideratum is to obtain a virus, or culture, of a constant degree of mild virulence. As inferred above, various methods have been empirically discovered. Pasteur, as has been seen, used certain forms of animal life at first, carrying the virus from one to another of a given species in which it slowly lost in virulence until it acquired a desired benignity. He also found that an augmentation of virulence, until it acquired an equal constance in malignity, could be produced in some other species of animals. This was too expensive a method to be practiced. He then found that the exposure of the cultures to a certain degree of heat for a certain time would also produce the desired mitigation. Others have proven these observations to be trustworthy. Chauveau works by the oxygen pressure method and has obtained the same result. We need not discuss others.

The great fact is that once the desired degree of mitigation has been obtained in any virus, that the virus thus obtained can be then cultivated in ordinary media (fluid) outside of those conditions, and that the virus thus obtained will retain this constant degree of mitigated virulence for a long time. If a spore-bearing germ, this condition may be retained almost indefinitely, but in non-spore-bearing organisms it is not so reliably constant. The first thing then was to obtain a constancy of virulence in the desired direction.

I have never thought that either of the above methods were strictly scientific. They are too artificial: hence, as far as swine plague is concerned, I

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have endeavored to produce the same result by a more natural procedure. That is, by chemical nutrition, for this virulence is entirely a physcological-chemical result, and absolutely dependent upon the nutritive qualities of the media in which germs develop. It has been said that, once a desired degree of mitigation was arrived at, it could be retained in artificial cultures for an indefinite period.

In regard to the swine plague germ, other investigators have not only declared this to be impossible, but also unnecessary. I shall show that it can be successfully done, but cannot unfortunately tell how, for reasons previously given. I think I shall also be able to show that, in a certain sense, no great result has been obtained when we have done it.

Attention has been called to the fact that others could not obtain this constancy in mitigated virulence, and furthermore, that it was unnecessary in swine plague.

In a paper on "hog cholera," which is the disease I call "swine plague," one of these dilettants says: "I shall not go into the details of preventive measures in this paper. What you are doubtless interested in is the new points which may have been brought out by our investigations. The most interesting of these is our attempt to confer immunity by inoculation. We soon found that there was no indication for attenuating the virus for this purpose, because the strongest virus might be introduced hypodermically with impunity in considerable doses. Now, as the stronger a virus is, the higher the degree of immunity it produces. You can see that there is every reason for using fresh unattenuated cultures. We made many experiments and found that hogs might safely be inoculated with one-quarter to one-half a c.cm. for the first dose, and that the second dose might be safely increased to 2 to 3 c.cm., showing that some degree of immunity had been gained. Those twice inoculated however were still unable to stand exposure in an infected pen, and could not be fed the virus without fatal results."—*Journal of Comparative Medicine*, Philadelphia, Pa, April, 1888, Vol. IX, p. 149.

Let us consider these statements a little. First, not only their general tenor, but that of all the subsequent publications of the same author, show, according to him, that swine plague cannot be prevented by inoculation. It is interesting to read, in this connection, what the same authority said in 1883, five years previous to the above, when, as can be shown, he had no idea what the germ of swine plague was: but, supporting himself on the authority of Pasteur, he asserted a micrococcus to be that cause. Swine plague was not discovered in France until 1887.

He said: "Our investigations have shown that the plague is a non-recurrent fever, and that the germs might be cultivated; they have even proved that these germs may be made to lose their virulent qualities and produce a mild infection. Surely we have here sufficient evidence to show that a reliable vaccine might be easily prepared if we carried our investigations but a little way further."

"Mr. Pasteur has recently confirmed(!?) our American investigations in a very complete manner. He shows that the disease is produced by a micrococcus; that it is non-recurrent; that the virus may be attenuated and protect from subsequent attacks; and he promises a vaccine by spring."—*Report Department of Agriculture 1883, page 57.*

That the above was made out of whole cloth is shown by the following:

First. A micrococcus is not the cause of swine plague.

Second. The Government knew of only one swine plague until 1886, and a coccus is not the cause of either hog cholera or the nondescript disease it now calls swine plague.

Third. Pasteur studied "rouget" and not swine plague.

Fourth. A bacillus has been proven to be the cause of "rouget" and not a micrococcus.

Fifth. Pasteur's virus against rouget does prevent.

Sixth. If, in 1883, this person "surely had sufficient evidence to show that a reliable virus might be easily prepared," what has become of that evidence since then? It is singular that my success in preventive inoculation should dispel it as easily as the morning sun does the fog of the prairie.

As to preventive inoculation in swine plague I will quote the following only from my address before the Live-Stock Breeders' Association of Nebraska, February last:

"My only sin has been that I forestalled the ambition of the Government, which, being one "for the people," we might suppose would be an act to receive kind endorsement, rather than the most bitter and fanatical opposition.

Even that "board of inquiry" admitted that inoculated hogs stood the tests they were exposed to better than hogs which had recovered from a natural outbreak.

Professor Burrill, in a moment of unprejudiced honesty, wrote me that "none stood the tests so well as the Nebraska hogs."

With these facts publicly announced to those most and directly interested, a political neophite, in a recent publication, claims that he has a letter from the president of that "board of inquiry," Dr. Shakespeare, in which the latter says that the Nebraska hogs were equally sick, when put in a diseased herd, with a lot of healthy ones also put in the same herd. Then why did not Dr. Shakespeare tell the farmers that in the published report?

Was it not the sacred duty which he owed to science and to every hog-raiser in this country?

On the contrary, that part of the report to which he had his name attached, says, without any reservation whatever, that the Nebraska hogs stood the tests better than those naturally recovered.

What more, then, can you ask?

Does not that assertion of Dr. Shakespeare's, endorsed by Prof. Burrill's signature and by his later letter, not only emphasize and confirm the reiterated statement of the Government that the disease is "non-recurrent?"

If the inoculated hogs stood the tests better than the recovered hogs from a naturally "non-recurrence" disease, then art beats nature, and inoculation has proven to be a reliable fact, one established beyond question, no matter if an occasional failure does occur, as it has in my practice since I left you and since I have had to entrust the business to other hands, and, from the very opposition of the Government, resort to an undue precaution, which, had I remained here, would never have been necessary.

To the above I add one testimonial from practical farmer, contributed to the *Breeder's Gazette* of April 2, 1890:

Mr. R. C. Fulton, Taylorville, Ill., writes: "The reports in your issue of March 19, by C. A. Cantine, A. R. Hubbard, Marion Ryman, on inoculation, remind me that it is surely due Dr. F. S. Billings, also the farming world, that I should make report of my experience with two inoculated boars sent me for the purpose of proving, so far as possible, that inoculation is a preventive. The pair of hogs were received about February 8th and at once placed in a lot of about one acre, adjoining which were breeding pens for six sows. In the lot and pens named I had lost forty head of hogs, and yet had a few left when the boars were placed in the pens. The hogs have continuously bedded on the same litter and in the same pen where eight had laid while sick and dying. I have them fed on ear corn only, and that was strewn on the excrement and cleanings from other infected pens, and for drink they have had slough water, which catches the waste of barn-lot and pens above named. This I consider a crucial test and I

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felt nothing short of that would satisfy even my unprejudiced mind as to the prevention of swine plague by inoculation. Many of my neighbors have looked on incredulously and I was even laughed at by more verdant ones, but the laugh ceased, incredulity has vanished and all admit that something prevented, and what else but inoculation? for my herds have been reduced or swept away before. In conclusion, the hogs named are doing fine on the same ground where forty died."

Scientifically speaking, this is sufficient evidence to prove the fact.

Now as to that irresponsible's statement that "we soon found that there was no indication for attenuating the virus because the strongest virus might be induced with impunity in considerable doses?"

Whether one c.cm. is to be looked upon as a "considerable dose" or not I will not attempt to decide, but that I can select an outbreak of swine plague from which that dose, in the first generation of cultivation, will produce fatal affects, as well as that inoculation will prevent, is shown by the following:

In December, 1888, I desired to test a number of inoculatated hogs for a special purpose. At the State Penitentiary there raged one of the most malignant outbreaks on record: By malignant I mean acutely—fatal, not prolonged and still fatal in its course. From one of these hogs I obtained a culture and inoculated, in the flank, 17 healthy uninoculated hogs, and 20 inoculated ones, with 1 c.cm., of the first culture. Fifteen of the uninoculated pigs died, and all were sick. The others were not affected at all. Cultures from the original penitentiary hog and from several of those which died, with full autopsy notes were sent to Professor Welsh of Johns Hopkins.

This then shows that "considerable doses" of the strongest virus cannot be used with impunity, and also that immunity can be produced by mitigated cultures, as none of the inoculated hogs were made seriously ill during their treatment.

The germ of swine plague varies very much in acuteness of virulence, as every one knows and is shown in nearly every outbreak one studies. Rabbits have been considered to be suitable animals to control this point, of which one observer says: "Rabbits die from hog cholera inoculations in six to nine days." Journal Comp. Med. e. c. p. 133. On this point, Welch says: "the duration of life after inoculation of rabbits is usually from five to fourteen days, and it may be even longer." Journal Comp. Med. Vol. 1, 1890, p. 52. "Rabbits when inoculated die usually in 6 to 8 days."—Bulletin John Hopkins University, Dec. 1889.

In an attack upon Preventive Inoculation, made by a tool of the government before the Kansas Board of Agriculture, we find the following interesting passages:

1st. "Prevention by inoculation depends upon the well-known principle that one attack of a contagious disease generally protects the individual from the subsequent attacks of that contagion. All individuals, however, are not protected in this way from any disease, and in many cases the protection only lasts for a short period."

Comment is unnecessary.

2d. "The dose is not the only factor which must be considered when inoculating. The strength of the virus varies in different outbreaks of the disease so much that the dose, which would be perfectly harmless in one case, would be as certainly fatal in another. As there is no reliable test of the strength of virus but experiments upon hogs, and as the strength varies dur- artificial cultivation, you will see that it is next to impossible ccurately know the strength of the virus he is using.

3d. "Inoculation in practice consists in injecting under the skin as much of the strong virus of hog cholera as can be safely given without producing a fatal type of disease. It must be remembered that inoculation is very different from vaccination. The virus used in inoculation is the same as is found in hogs dying of the plague, while in vaccination a virus is used so weakened that it cannot cause a fatal disease. No method of vaccination has yet been introduced for hog cholera. It is inoculation that is being advertised as a preventive for hog cholera, and it is a question of the size of the dose whether the disturbance produced in the hog's body is mild or fatal in character."

From all that has been quoted from these authorities it is evident that they have no idea of a constancy of virulence in the swine plague baccilli, or that such can be obtained.

It has already been stated that in Pasteur's and other methods of mitigation when a certain desired degree of mitigated virulence had been once obtained, that cultures of the same degree could be then carried on for an indefinite period.

This led me to the study of the following questions:

1st. Is there a mitigated or non-fatal degree of virulence to be found in natural outbreaks? Or, in other words, can a vaccine virus be at once obtained from a natural outbreak? This I proved to be an unquestionable fact, easy of demonstration at any time, though it took much study and very close observation of the relation of certain pathological lesions to the desired degree of virulence, to obtain the knowledge, and some experimentation to prove it.

2d. Can this or any natural degree of virulence be retained indefinitely by any method of artificial cultivation, by nutritive measures alone?

3d. Can this micro-organism be fed up and down in virulence, by changes in nutrition alone?

4th. Can a direct proportional relation be established between a certain dose of virus of known virulence in small animals, and a safe or preventive dose of the same virus in hogs?

The last three questions have all been solved in a most exact and satisfactory manner.

It is possible for us to almost invariably select an outbreak of swine-plague from which a given dose of the first cultivation will kill a rabbit on subcutaneous inoculation, in approximately four days, and by a very slight variation in nutrition, to bring and retain such a virus to this point of virulence in a very few generations.

In order to demonstrate this point, I will give the result with several viruses:

VIRUS NO. 1.

1st.	Generation.	Sep. 28,	1888.	Killing time,	4	days.
35	"	Jun. 5,	1889.	" "	4	"
76	"	Oct. 2,	"	" "	5	"
78	"	" 16,	"	" "	4	"
79	"	" 23,	"	" "	4	"
80	"	" 30,	"	" "	3½	"
81	"	Nov. 10,	"	" "	4	"
82	"	" 17,	"	" "	3½	"
83	"	" 25,	"	" "	4	"
84	"	Dec. 2,	"	" "	4	"
85	"	" 9,	"	" "	4	"
90	"	Jan. 26,	1890.	" "	4	"
93	"	Feb. 22,	"	" "	3½	"
95	"	Mar. 9,	"	" "	2¾	"
98	"	" 31,	"	" "	6*	"
99	"	Apr. 6,	"	" "	4	"
100	"	" 13,	"	" "	4	"
101	"	" 20,	"	" "	5	"

*This rabbit had survived a very delicate inoculation, made on 16th of March.

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VIRUS NO. 2.*

1st. Generation.	Sep. 28, 1888.	Killing time,	4 days.
77 "	Oct. 5, 1889.	" "	4 "
78 "	" 13, "	" "	3½ "
79 "	" 16, "	" "	4 "
80 "	" 23, "	" "	3½ "
81 "	" 30, "	" "	3½ "
82 "	Nov. 10, "	" "	3½ "
83 "	" 17, "	" "	3½ "
84 "	" 25, "	" "	3½ "
85 "	Dec. 4, "	" "	5 "
86 "	" 11, "	" "	3¼ "
90 "	Jan. 10, 1890.	" "	3¼ "
95 "	Feb. 22, "	" "	3½ "

VIRUS NO. 3.

1st Generation.	Oct. 2, 1889.	Killing time—	4½ days.
2 "	" 9, "	"	3 "
3 "	" 16, "	"	3 "
4 "	" 23, "	"	4 "
5 "	" 30, "	"	4 "
6 "	Nov. 10, "	"	3½ "
7 "	" 17, "	"	3½ "
8 "	" 25, "	"	4 "
9 "	Dec. 4, "	"	3¾ "
10 "	" 11, "	"	3½ "
11 "	" 18, "	"	3½ "
15 "	Jan. 19, 1890.	"	3⅛ "
19 "	Feb. 22, "	"	3½ "

VIRUS NO. 4.

1st Generation.	Oct. 3, 1889.	Killing time—	3 days.
2 "	" 9, "	"	4 "
3 "	" 16, "	"	4 "
4 "	" 23, "	"	4 "
5 "	" 30, "	"	3½ "
6 "	Nov. 10, "	"	4 "
7 "	" 17, "	"	3 "
12 "	Dec. 24, "	"	3¼ "
13 "	Jan. 1, 1890.	"	3¼ "
16 "	" 26, "	"	3¾ "
20 "	Mar. 2, "	"	3½ "
21 "	" 9, "	"	3 "
24 "	" 31, "	"	3¼ "

VIRUS NO. 5.

1st Generation.	Dec. 19, 1889.	Killing time—	2½ days.
2 "	" 24, "	"	2½ "
3 "	Jan. 1, 1890.	"	4 "
4 "	" 10, "	"	4 "
5 "	" 19, "	"	4 "
6 "	" 26, "	"	4 "
8 "	Feb. 22, "	"	3½ "
13 "	Mar. 31, "	"	4½ "

VIRUS NO. 6.

1st Generation.	Jan. 30, 1890.	Killing time—	2¾ days.
2 "	Feb. 2, "	"	2½ "
4 "	" 22, "	"	3½ "
6 "	Mar. 9, "	"	4 "
9 "	" 31, "	"	4 "
10 "	Apr. 6, "	"	4 "
11 "	" 13, "	"	4 "

From the first generation of this virus No. 5, seven healthy hogs received one cubic centimeter in the inside of the thigh subcutaneously; two of these which were closely confined. died within ten days; the others were at first loosely confined and showed no ill effects, but after the fifteenth day they were changed to the closest confinement possible, and all died between the 30th and 35th day, while five others, which were given plenty of room to roam about and which received the same dose, all lived. This experiment was made to demonstrate, if possible, a certain well-known fact of practical experience.

It has always been told me that if sick hogs were shipped that the death-rate would be checked or even stopped while on the cars, and it has also become more or less current among farmers, that to put sick hogs on a wagon and rattle them over frozen and rough ground, was a good thing to do. In some few cases evil results have followed inoculation. Some few hogs have either died after a prolonged illness or become somewhat stunted, while others, inoculated with the same dose of the same virus, have shown no ill effect. It therefore becomes an interesting question to discover why this should occur in one case and not in a great many others.

After very careful inquiry, it was discovered that where ill effects followed inoculation, the animals were kept very closely confined and had not room enough to move around, and that this was the cause; or, in other words, insufficient movement to stimulate the circulation. A very striking example of this occurred in two bunches of hogs inoculated at the same time for a gentleman who is a personal friend and a great advocate of inoculation. At his house were 25 hogs in a small pen, while in a field, running with his cattle, were about 125 others. Those in the small pen had a prolonged and very severe attack of swine plague in consequence of the inoculation, though none died; while the 125 in the field showed no ill effects whatever.

Exactly the same thing occurs in typhoid fever in man. The patient has recovered from the typhoid and the physician congratulates him; the next day he is cyanotic, rapid breathing is present, and pneumonia develops: owing to stagnation of the circulation and the reflow, or pressure, of the blood to the point of least resistance, which is the lungs.

The above tables show that a standard of virulent activity can be produced in cultivations of the swine plague germs simply by proper nutrition. They further show, that not only the selection of material from a natural outbreak can at once provide a preventive virus, but also that in successive cultivations, for generations this standard can be retained at a greater degree of virulence than other observers claim to have found in natural outbreaks by their controls in rabbits.

Now I most positively, and against every and any assertion to the contrary, assert that I can prevent swine plague by inoculation. Were I not bound as I am I would give records of other viruses possessing no virulence whatever, which have produced, and still produce an absolutely immune condition in nearly every hog inoculated.

To discover this fact has cost an immense amount of experimentation and a large amount of money. There is one difficulty about it which cannot be overcome. While the virulence of a culture can accurately be tested on small animals, and the exact relation be established between that virulence and a safe dose in the animals in which a given non-recurrent disease occurs naturally, we have no means of testing the preventive properties of a virus, except the results in inoculated animals of the species in which the disease naturally occurs, and this takes a long time and a great many inoculations.

When I began this work I thought that a test of virulence, with a proper regulation of the proportional dose, was all that was necessary, now I know that a test of virulence with such proportional control is of no value whatever with reference to the protecting power of a given virus. I know this by an experience

* From an outbreak on another farm.

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in over 1,500 hogs. Either one of the six viruses named above will kill a hog by subcutaneous inoculation in sufficient doses, but more reliably by feeding experiments, yet not a single one of them will protect a hog an iota against the cholera, while a germ virus, without any virulence whatever, even by forced feeding, will protect securely, and almost invariably in single doses of one cubic centimeter.

This assertion is apparently contradictory to all previous experiences, and yet if one stop to think a moment supported by the most trustworthy experience which we have.

There is no question that under certain circumstances, using a natural virus, we must reduce the virulence to a certain degree in order not to produce a fatal attack by inoculation, but on the other side we do not need to have a virus possessing any virulence whatever to produce immunity in a non-recurrent disease.

Vaccination gives the best possible example of the point we desire to call attention to. While in variolation small-pox itself was transmitted and the variolated person was as much a source of contagion as one having the natural small-pox, the vaccinated individual is absolutely non-dangerous to those coming in relation therewith.

What has been lost?

Certainly something, and the practical evidence conclusively demonstrates that it must have been, or be, that peculiar element of the germs, the Contagion, which rendered the variolated person dangerous while the vaccinated one is not.

It is a question of nutrition only, which can be demonstrated by exact experimentation if we only try.

The bovine organism must offer certain nutritive conditions which in some unknown way rob the micro-organismal cause of small-pox of its contagious (small-pox) producing qualities, while the preventive one retained in optima forma.

The same can be done with the germ of swine plague, but to no such degree of absolute certainty as nature, or accident has accomplished in vaccina. While it is the easiest possible matter to feed the germ of swine plague up and down in virulence, to make it extra malignant, or rob it of that quality altogether, by changes in the chemical nutrient, it is a most difficult thing to retain the preventive physiological qualities of these germs. Sometimes it can be done for months, and again they are lost in a few generations; but we have no control over these matters, except the practical tests. None of the small animals, which I have tried, can be easily or successfully rendered immune against swine-plague. Rabbits and guinea-pigs can be rendered somewhat immune by repeated inoculations of small quantities of virus, but, so far, I have been unable to render them absolutely so. Pigeons vary, but no more artificial immunity can be produced in them than they naturally have, as will be shown later and at another time.

As has been repeatedly mentioned, a test or control of virulence has nothing whatever to do with the protective power of a virus. It simply shows that it is safe to use, and that we can establish the point of safety by experiment.

This shows that we have all been working on an erroneous basis: prevention has no relation to specific virulence. Others have demonstrated the same fact.

In the *Times and Register*, Philadelphia, of April 12th and 19th, were published a series of most interesting experiments by Chauveau, the most eminent and conservative experimenter in France, in which he demonstrates it in connection with bacillus anthracis. Chauveau says, that *"Energetic Vaccinal (preventive) properties have been discovered in a pathogenic germ (B. Anthracis) not only attenuated in its virulence, but systematically deprived of all infectious properties, rendered so neutral and inactive, that we were forced to ask ourselves if this transformed microbe had not become a new species."

"Cultures of bacillus anthracis in this condition can then be carried on in the ordinary atmosphere."

Chauveau conclusively shows that bacillus anthracis produces two chemical elements in its bio-physiological development; the one, toxic, or specifically disease producing, the other, having exclusively preventive properties, and that by cultivation in 2 to 2½ pressures of oxygen, the toxic properties may be, or are, lost, while the preventive are retained. Or, to use his own words: "In fact, in my experiments the vaccine property of the transformed bacillus anthracis is so active, and so well survives the loss of all infectious properties, that we seem authorized to consider these two properties as being absolutely independent of each other, and as each belonging to a special product of microbe life."

Another point in evidence of this fact, is this: If we take a culture of the germ of swine-plague, which has experimentally been shown to actively possess both of these, preventive and toxic, or disease producing qualities by actual experimentation, and freeze it solidly for several days, and then inoculate or feed hogs with it, we will find that while it has retained its toxic, or disease producing properties without mitigation, it has entirely lost its preventive property.

That bacillus anthracis has the power of producing these two essentially different chemical elements, has been well shown by Heuppe and Wood.

Though I sometimes criticize the conclusions of my friend Heuppe, still I think him one of the most competent and reliable patho-bacteriologist living, especially in regard to physiologico-chemical attributes of pathogenic bacteria. In the publication mentioned, Heuppe and Wood describe a saprophytic bacillus, absolutely without virulent qualities, which in every method of artificial cultivation, or under the microscope, bore such close resemblance to B. Anthracis, that it could not be distinguished from that organism. It is a well known fact that all previous experimenters have been unable to render mice immune to anthrax by any system of preventive inoculation, and yet, with this absolutely non-virulent germ, Heuppe and Wood were successful in rendering these most susceptible animals immune to extremely virulent cultures of bacillus anthracis.

Now, it is neither logical nor reasonable to suppose that this was any other micro-organism than bacillus anthracis. It was derived from the earth possessing exactly the same attributes described by these observers. In this case the nutritive conditions in the earth had naturally produced exactly the same physio-

*The original appeared in "Archive de Med. Experimentate," March, 1889.

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logical-chemical conditions in bacillus anthracis which Chauveau has conclusively demonstrated to be possible of production by the cultivation of the same germ under certain degrees of oxygen pressure, and I have been able to do with the swine plague germ, by chemical nutrition, the only difference being, that while I have, as it were, "gone it blind," not being a chemist, and accidently hit on a means of arriving at a certain practical result by innumerable changes in chemical nutrition, until I have empirically arrived at a method of obtaining a certain result for an uncertain length of time, Chauveau has found a definite means of obtaining it with reference to bacillus anthracis.

That the chemical-nutrition method is the one by which practical results will eventually be obtained, goes without question, but it remains for the chemist alone to really discover and perfect it.

The discovery of Hueppe and Wood regarding bacillus anthracis finds its confirmation in many diseases of extra-organismal origin and explains that heretofore mysterious condition known as "acclimatization" in diseases of this character: such as yellow fever, Southern cattle plague, etc. In these cases the specific germs in saprophytic or non-malignant condition must have gained entrance to the individuals possessing this acclimatization immunity while they possessed this prophylactic property, though not possessing the toxic or disease producing.

That all these exogenous germs are or can be changed to saprophytic must be self-evident, and that their toxic or disease-producing property is acquired by peculiar nutritive conditions in the soil which they naturally inhabit, seems also equally clear. In fact, their acquisition of disease-producing qualities is dependent upon the prolonged saturation of the ground with the excreta of animal life or the decayed products of animal tissues. The delicacy of the action of these germs in different nutritive media is so little understood and has enjoyed so little experimentation, especially chemical investigation, that we really know very little about it, yet it is the open field of original research which will eventually lead to success and from which we can only hope for decidedly practical results.

Why the swine plague germ should lose its virulent properties in cattle, or even when cultivated in sterilized cattle urine, is a question no one can decide at present. Why the germ of the corn-fodder disease should not be toxic to animals while still manifesting its presence by specific lesions in green and growing corn and only become toxic when and after the leaves begin to wither and the chlorophyl suffers chemical changes, are also questions of a nutritive nature which can only be elucidated by the most exact chemical investigations.

At one time in their existence all these organisms are saprophytic and again they may become pathogenically toxic, all of which is determined by the material they develop in.

Before closing I desire to say a word in relation to fluid-cultivating media. When the study of bacteriology first began these were the only media we had and it was next to impossible to obtain perfectly pure cultures for the want of a reliable means of isolation. Koch supplied us with this means, but in doing so led to an altogether too great neglect of fluid media, which has retarded investigation to a degree not sufficiently estimated by the majority of investigators.

Once it was thought that the only way by which pure cultures could be legitimately attained was by the isolation method offered by the solid media on plates according to Koch. Now we know that in the majority of cases if we inoculate a susceptible animal with material containing a variety of micro-organism derived from an animal having a specific disease, in general, the germs of the latter only will develop, and that from the specific lesions we can generally obtain the specific germ in a pure condition if we take the necessary precautions. It is singular that the lesson of this experimental experience has not made more of an impression upon investigators. Why is not the same rule applicable to animals or individuals afflicted with the natural disease? In other words, why not pathologically decide which is the specific lesion in a given disease and by experience discover the period in which it is truly specific and then make cultures directly from it at that time? This point decided, pure fluid cultures can be almost as easily and surely obtained in septicæmic diseases as by recourse to solid media.

In swine plague, Southern cattle plague and the corn-stalk disease, all septicæmic in character, I have invariably used fluid cultures in connection with solid and with equally successful results as to purity.

The virus No. 1, to which attention has been called, is now in its 102d generation; that is, it has been carried on successfully through about one hundred fluid cultures without one single pollution occurring during all that time. We must resort to fluid cultures if we will be successful in preventive inoculation, for this procedure is one, as well as virulent inoculation, which depends entirely upon the chemical food offered, and only with fluid media can we experiment in that direction or prepare the way for the chemist. Germs which soon lose their virulence on or in solid media retain the same indefinitely in appropriate fluid cultures. Starting with a pure culture, there is no more danger of pollution in the transference from fluid media to the same, than in solid media, if one is rapid and dexterous in his manipulations. It is simply a question of strict sterilization and rapid dexterity which gives satisfactory results in either case.

Let me again say that it is only from nutritive experimentation with chemical fluid media that we can arrive at any satisfactory results.

Dr. Bayard Holmes. Mr. President: I think there can be no doubt whatever that every point of any importance in this argument is well taken and that it will not be very long before we shall have them demonstrated. But there is one point that this paper suggests that it seems to me we ought to consider. Suppose we admit that scarlet fever, measles, whooping cough and every other disease that is non-recurrent can be protected by some form of inoculation. The whole tendency of our literature points in that direction, and promises inoculation against those diseases that are non-recurrent. But let us suppose that is a fact and not discuss it. What are you going to do about it? What credit, what reward is there for any young man who shall undertake to bring about vaccination for any of these diseases? Suppose he can do it in the course of a year, or two years, or ten years. Just suppose a preventive inoculation for one of these diseases, say scarlet fever, could be brought

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about in the course of ten years at an expense of ten thousand dollars. Tell me how could any man be paid for it; what credit or honor would he get? Would he be received in medical societies generally; could there be any reward brought to him directly or indirectly so that he could get back a tenth of his ten thousand dollars; would he receive credit while he lived or honor when he died? I don't believe he would. Jenner, who was essentially a scientific man brought about vaccination and received a reward which no man could expect to receive in this country. He had a modest monument erected to him, though this was afterwards removed to an inconspicuous place to give way for the erection of a grand monument to a warrior, who had perhaps killed more men in his lifetime than Jenner's vaccination saves every year. He has had lately a bacteriologist attempt to defame his memory as a physician and a man, in two ponderous gilt-edged books. Of the many reviewers who have noticed Crookshank's books few have read them, and none have suggested that they were subsidized by the "Antivaccination Society." In view of all this I don't believe there is the slightest possible reward offered to any young man to bring about the most perfect vaccination of any of the infectious diseases. There is no incentive, but calumny and abuse, to undertake to do a thing which every student in these departments is convinced will soon be an accomplished fact. There is money and honor and a sure reward for the man who will invent a destructive implement of war or a labor-saving device, but life and health and our loved ones are too cheap to promise remuneration for their protection.

Dr. B. M. Behrens read a paper on *The Present Treatment of Adenoid Vegetations.*

I have for a long time thought of presenting this paper to the medical fraternity, but so much has been written upon this topic of late, and I dare say so much conquered, that there seemed to me to be no haste about it, as much more as I expected, that I might find my views better presented by somebody else. The heading of my paper indicates its contents and is meant principally to be a critique upon the existing treatment more than a suggestion of any new one, what we are really not in need of, if we only select the most radical and most feasible of those proceedings, so often mentioned by others. You know, gentlemen, that the rhinology has of late conquered more points than any other branch of medicine, I dare say, not only in regard to recognizing near and dire consequences of a diseased or abnormal condition of the nostrils and the post-nasal space, but also in regard to more remote symptoms, that were, not long ago, never attributed to such obscure regions as those above mentioned. Here is opened a field now, where many and honest workers are occupied in enlarging our knowledge and bringing forth every once in a while new facts, concerning which physicians of earlier date knew very little or nothing. I shall only call to your mind frequent contributions in the medical papers upon this topic, and the many very able discussions we have listened to in this Society. It would lead me too far to recapitulate it, and therefore I shall refer those, who want a synopsis of it, to read a very able perusal on this topic, that will be found in the first March copy of the Journal of the American Medical Association. Dr. Delavan calls our attention here to all those anomalies, caused by adenoid vegetations, from assymetry of the face, pinched nostrils, open mouth, projecting teeth, arched palate, stupid expression, anæmic surface, drooping eyelids, to the stenosis of one or both nostrils with constant catarrh and defective speaking, discharge from the ears, loss of hearing, mental dullness, deformity of the chest and so forth. If the adenoid vegetations in the post-nasal space are the root to all these evils, what I don't doubt, then it is time, fellow-physicians, to give the child a chance. He says it is one of the most annoying and pernicious conditions which we are called upon to treat. I fully agree with him, and I would add, that it would be almost criminal carelessness on the part of that physician, who would say, that these things will outgrow themselves. Certainly they do in many cases, but too late after they have done irreparable harm. That we have many such back-sliders in medicine, we all know. For the sake of illustrating it, I should like to know how many small ones have lost their hearing forever by this popular trash. In my practice I have seen too many deplorable consequences of this foolish neglect; but luckily-wise the light is spreading and the children will reap the blessing. How? That is the question we have to meet, not by paraphernalia by the dozen, but by simple means, that are at hand to us all. To make the physician sick of a talk on childrens' ills and miseries, and, at the same time, surround the possible help for it with a Chinese wall, which only the most able specialists can climb, is but to evade the question. We must remember that we here speak about common ills, where the common practitioner ought ro be enabled to lend a helping hand, or rather finger.

In my practice of fifteen years, I have employed only this: the index, in children, and the ring-knife, invented by Dr. Meyer, of Copenhagen, in adults; and I defy any specialist with his rhinoscopic mirror, mouth-gag, palate-retractor, different instruments, chloroform and assistants, to show me better results than I have obtained. To hunt for instruments and means, that only lead to a further complication of the already too complicated treatment, serves only to make it more unsavory than it already is. And here is the point where all the able writers fail to harmonize theory with practice. Instead of looking around for a simple proceeding, that doesn't need to have even an appearance of operating, an effort is made to make it look like a big undertaking—what for? And the result is no better. Is there any objection whatever to the simple proceeding? Not at all. The first thing we consult is the result. As I said, it is as good after employing the finger-nail, as after employing the most handy instruments. Is there more pain connected with using the finger-nail? Not at all. If we want to, we can apply cocaine to all the parts that we are likely to touch with the finger, to lessen the pain in a considerable degree. Is it likely to be more repulsive to the child than a display of ugly instruments? Certainly not. Is it likely that we can do more harm with the finger-nail than with instruments? Most certainly not. I remember only a few instances of objection to employing the finger; but, on the other side, how many would be willing to submit a second time to the cruel instruments and the other devices, above referred to? The fact is, we cannot, and ought not to remove all the mass we may find in the pharyngeal vault, in one sitting, not

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only because of the nervous shock that might accompany such a procedure, but also and more because an operation to such an extent, would give us so large a wound surface for the after treatment, that we would lose control of it in a locality where we can hardly apply any disinfectants at all. Preferable is it, on this account also, to do the required work in more sittings, as the scraping with the finger-nail needs only occupy half a minute to one minute, or even a shorter time, according to the texture of the vegetations, and the dexterity of the operator. As these are always soft in children, it is a very easy matter to scrape away a good deal at once. Usually, the children declare right off that they can breathe easily through the corresponding nostril. The often very profuse bleeding is easily checked with a luke-warm nose-douche of salt water. The operation on the other side, can be repeated eight to ten days after, and the nose-douche again applied. To be sure that all, or almost all is removed, I go over this field once more, after eight to ten days, again, so that the whole undertaking takes three to four weeks, in which the child scarcely notices any trouble whatever, save for some accumulation of mucus or pus. My small patients have even always attended school in that time. In regard to the absolute necessity of removing all, so that not the smallest particles of these vegetations are left, then I cannot agree upon this claim. This is also a part of the Chinese wall, with which the undertaking is surrounded, to deprive most of the physicians of the little courage they might have to do something. To free the posterior openings of the nostrils and the orifices (for) for tube Eustachii is our aim, no matter whether there is left a small knot of adenoid tissue or not. Just as well might be claimed the absolute necessity of removing small hypertrophic follicles, that we always find dispersed here and there on the posterior pharyngeal wall.

My proceeding is soon described. I do not waste any time with rhinoscopy or the like. The diagnosis can be made without—and I wonder what the rhinoscopist can see—but simply ask the patient to open the mouth and put my index finger along the palate until I feel with the tip the free edge of the soft palate, and in bending the finger lowers the hand, after which I softly glide the finger upward to the soft mass and scrape at once. With my other free hand I press the patient's head in to me and downward to prevent the patient arising from the chair. All the assistance I ask for is of one to hold the patient's hands so he don't interfere. Of course it doesn't go without some little fighting, but as remarked above, the patients don't object to a repetition another time. It can be done so gently as to find no resistance even in small children. The youngest ones I have operated upon were three years of age and where a display of ugly instruments would take the wits out of them. It is evident that it will not do for a giant with a fist for base-ball to put his finger into a little child's throat and with rough force fight his way behind the soft palate. It must be left to a small hand and neat finger to do this kind of work.

When the fibrous tissue is more predominant and consequently the vegetations denser (harder), or in adults, I mostly employ the ring-knife. As you will see, gentlemen, it is only a curette with a straight handle that is introduced in the nostril corresponding to that side of the post-nasal space where we want to operate. In all text-books, and partly papers, there is evidently a misconception of the construction of this instrument. I have seen it somewhere described as a curved curette, or as a lithotrite-like contrivance, but as you see here, it is neither. It is not introduced through the mouth, but through the nostril, while the index finger of the operator's other hand is introduced behind the soft palate to lead the ring in its scraping work. Whatever I employ, the finger-nail or the ring-knife, I always apply a two to four per cent solution of cocaine to the soft palate, and for the post-nasal space a cotton pellet on a bent cotton-holder, saturated with the solution; for the nostril a spray, not only to alleviate the pain, but also to make the nostril wider and easier passable to the ring-knife. After the operation I use a nose douche of luke-warm salt water, that does away with loose tumor rests and blood, and is applied to the most obstructed nostril to prevent any accident to the ears. As a last act I apply some iodoform on the post-nasal space for the sake of a good conscience, and I have never had any cause whatever, from any point of view, to prefer any other way of operating on this pernicious condition we call the adenoid vegetations.

It is a matter of course that this proceeding also requires some dexterity on the part of the operator, not only to do the work well, but also to do it in such an effective and at the same time lenient way, as to win the confidence of the patients; that is indispensable considering the necessity of doing the operation up again several times.

All the writers lay much stress upon the necessity of removing all of the adenoid tissue in the pharyngeal vault. To me they look as conscientious physicians who wish to do the thing very efficiently, and if they cannot, they prefer not to do anything at all. There are many tonsillotomists who claim that an entire removal of the hypertrophied tonsils is indispensable to be effective, and apply the same reasoning to the adenoid tumors. This is a great mistake. These tumors are as harmless as small tonsils. It is first when they are present in such multitude as to obstruct the posterior nares that they do all the harm above mentioned. Therefore, as a partly removal of hypertrophied tonsils will do in almost all cases, a partly removal of the adenoid tumors is better than none, and therefore I endorse the proceeding that is the easiest and best. I say endorse because it is not mine. It is as old as the discovery of this pathological condition itself and the only proceeding employed by the discoverer, Dr. William Meyer, of Copenhagen, himself. Is this pathological condition a common or, at least, very frequent evil, what most physicians agree upon? Then it must be our aim to find some simple means for it that are employable for every physician, and not stare us blind on an outfit that will make most of us hesitate before employing it. I trust that I am not fighting a spook. I have lately read many articles upon this subject and nowhere found anything about this proceeding, save a passing notice, but an operation with rhinoscopic mirror, mouth-gag, palate-retractor, chloroform and assistants, and so forth, has been the only thing worth mentioning in detail and with a minuteness, as if this were the only operation in existence. It is all very well to look for some means wherewith the least pain is caused; we ought all of us to be so kind-hearted, but for the sake of avoiding a little short pain, we are not justified in

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throwing away a proceeding that will in the end give just as good results as a complicated one, that only, and I dare say, very few specialists can and will employ. It is a pity, fellow-physicians, to witness the above-mentioned crippled condition in many children what mostly is irreparable in later years, when we stop to think, that taken in time, it might easily have been prevented by our only putting the index finger behind the soft palate.

For the sake of illustration I shall only mention two recent cases that will show conclusively what might be obtained with the above recommended proceeding:

Case 1. Alice K., aged 12 years, is very hard of hearing. Fœtid discharge from both ears since she was about 5 years old. The mother of the patient has been told by several physicians that the child would outgrow it, and consequently nothing has been done except an occasional cleaning of the ears. As the poor hearing puts her very much back at school, the mother decided not to wait any longer for the outgrowing, but consulted one of our best and most reputable throat specialists. As he was no ear doctor he advised her to go and see such an one first and then come back to him. It was thus she called on me.

After a thorough cleaning of the ears the drumheads are found destroyed and the hearing reduced to contact for the watch. She breathes mostly through the mouth, and this tells better than any examination her trouble. The stupid expression has spoiled for good a handsome face, but, save for a slight set-back to the development of her chest, she looks and feels strong and healthy.

In three sittings the adenoid vegetations were scraped away with the finger-nail, or most of them. Nothing specially done to the ears but cleaning. The hearing increased to about 12 inches for the watch on both ears, and free breathing is enjoyed continually, although a subsequent examination with the rhinoscope a couple of months after revealed some small tumor rests in the post-nasal space.

The other patient (Case 11) was a lady of 20 years of age with exactly the same symptoms, only more marked especially as to the stupid expression of her face. Here was also foetid discharge from both ears, only for which she consulted me. The adenoid vegetations, filling up almost the pharyngeal vault, were removed with Meyer's ring-knife in three sittings—also here almost, as there is still to be seen a bridge of adenoid tissue from side to side right below the posterior edge of the septum, and the ears only cleaned and plugged with borated cotton. The breathing through the nose is entirely free and the hearing in both ears considerably increased. This illustrates, gentlemen, also the unpardonable folly of separating in practice the ear treatment from that of the nose and throat.

The only Chinese physician in the United States has just registered at the health office in Brooklyn, N. Y. He is Dr. Joseph C. Thoms, and has his office at 336 Greene avenue. He graduated from the Long Island College Hospital with honors at the last commencement. He is about 25 years of age.—*American Practitioner and News.*

Western Medical Reporter.

A Monthly Epitome of Medical Progress.

JOHN E. HARPER, A. M., M. D., EDITOR.

G. FRANK LYDSTON, M. D., ASSOCIATE EDITOR.

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THE EDITOR would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information should be accompanied by the full name and address of the writer, although not necessarily to be published. All communications should be addressed to

WESTERN MEDICAL REPORTER, 163 State Street, Chicago.

American Medicine vs. the Immigrant Hog.

Dr. Potter, of San Francisco, in an able article in the *Journal of the American Medical Association*, makes a vigorous and timely attack on the treatment which Germany accords American diplomas. He calls particular attention to the arrogant manner displayed by the average immigrant doctor who settles in this country, toward American medical men. Dr. Potter truly says that "not one in a thousand of these medical immigrants possesses the certificate of the State examination of the country in which he was educated. Although their education is not of a grade sufficiently high to admit them to practice at home, they are admitted by our liberal laws and customs to all the rights and privileges enjoyed by our most highly educated physicians. In return, many of them rarely fail to sneer at our colleges and their graduates." Dr. Potter suggests retaliation, which in all reason would be only fair. It is probable that Germany is more rigid in her requirements than the average American college, but if the results are better, German immigrant doctors fail to demonstrate it. There are excellent men among them it is true, but if our American graduates do not average up better in point of brains and gentlemanly deportment than the average Dutch doctor, Germany ought to corral them all and throw them into the Rhine. If there is a more egotistical, bombastic, pig-headed ass than the Dutch doctor as we have averaged him up we will give a large reward for the specimen. Bombast, belly and beer are all right in their place, but they fail to convince American physicians of the superiority of those who most affect these qualities. We are far from know-nothing in politics, and we love the German people, but we do not believe that a large proportion of our immigrant doctors do their own nationality justice, much less do they over-top our progressive American physicians.

One of the loudest-mouthed and most venomous medical immigrant critics in Chicago is in the daily papers most of the time as a professional abortionist and baby farmer. The ignorance of "dose tam American doctors" is his chief capital and stock in trade. The American doctor, however, seems to know enough to keep out of jail, and we can certify that this is more knowledge than this combination of cerebral and abdominal *embonpoint* seems to possess.

Another beautiful specimen of the Dutch doctor has been indicted for something like three murders within a few years. How he has escaped hanging is a mystery, but it's a long road that has no turning. The hemp groweth right merrily.

In the matter of consultations one must be well muscled if he would go through the ordeal of a consultation with some Dutch immigrants whom we could mention

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without being grossly insulted. One experience has, however, taught us that the German hog respects good American muscle; to this the well-slapped chops of a certain immigrant might testify. With all due respect to a very brilliant and courteous minority, we are free to say that the average immigrant doctor is a sorry specimen. He laughs at American education and educational institutions, cuts fees, steals your patient from under your very nose, eats sauerkraut with his fingers and pie with a knife, and in point of education should excite the commiseration of a fourth-rate horse doctor. Most of the men who redeem the reputation of physicians of foreign blood are either of American birth or have received their education in this country. It was an American environment and an American education that made a certain acknowledged Western surgical light what he is, a credit to our profession and one who respects the progressive American physician.

There is one point in this connection that is well worth consideration: American doctors are inclined dog-like to fawn upon the hand that smites them. All that the average immigrant doctor with an unpronounceable name has to do to achieve success in America, is to fling his shingle to the breeze, resect a lung, or otherwise mutilate some unfortunate patient, and presto change! every Yankee doctor for ten miles around is at his feet. Consultation and operation fees galore pour into his coffers; hospital appointments without number are his and opportunities for snubbing his American satellites are proportionately abundant. Fie, for shame, ye weak sisterhood of emasculated medics! Do not the histories of Mott, Carnochan, Van Buren, Brainerd, Sands, Parker, Gunn, Hodgen, Post, Gross, Hamilton and a host of others show that American surgery needs no infusion of immigrant lore? Wherefore should not the shades of these great men ask of you, "what hast thou done with thine heritage"? In conclusion brethren, permit us to ask by what right human or divine, does the immigrant doctor, forced by his paucity of learning to seek a free for all field in America, arrogate unto himself all the learning in the world and the more or less remotely contiguous planets? He comes to us in all his nakedness, unless perhaps clothed in the traditional patch which the Irishman wore upon the foundation of his pants and which he described as the size of New York, he criticises our doctors and their institutions and you forsooth give him of the fat of the land.

But if the mills of the gods grind slowly, yet will they one day finely pulverize the medical immigrant. Rigid and inflexible State examinations will level all distinctions between colleges, doctors and nationalities. Return tickets will then be at a premium at the steamship offices. The sooner Germany realizes that three years' hard work is unusually more productive of beneficial results than a longer period of alleged study devoted for the most part to rioting, beer and women, the better for all parties concerned. The American student who patronizes German institutions of learning is apt to receive better instruction at home. The arrogance of some Americans who have dissipated in Berlin, Paris or Vienna, is only comparable with that of the Dutch immigrant. A large proportion of American students take their wealth to Europe in search of, not an education, but brains—they bring back the notoriety and incidental advertisement of a European course of study, an appetite for beer and perhaps a right regal decoration in the form of some variety of beer-fed venereal disease. Not only has the object sought not been acquired, but the little brains they formerly had have fritttered away into nothingness.

There is one thing more to add, viz.: The American physician will never be able to compete with his immigrant rivals (sic) until he has so far controlled palatal refinements that he can live luxuriously on four dollars a week. The thoroughbred is not in it with the broncho on a diet of tin cans. ——.

Dr. Joseph Price's Case of Porro Operation.

Dr. Joseph Price, of Philadelphia, has recently successfully performed the Porro operation under most difficult circumstances. The speedy recovery of the patient makes the operation the most remarkable of the kind upon record. The patient was at full term of utero-gestation, and the impediment to normal delivery was an immense uterine myoma which entirely filled the pelvic cavity. The Porro operation, with complete ablation of the myoma with the uterus, was performed. Recovery was marvelously prompt and the patient is now nursing the child, a healthy female.

Dr. Price's success in the field of abdominal surgery has already made him the foremost laparotomist in America. It is but just to say, however, that Dr. Lewis L. McMurtry, of Louisville, is a very close second in the race for prominence. Fortunately any competitive efforts which might be put forth by Price and McMurty would be in the most friendly spirit, as they are inseparables. Including the Porro which has just been described, Dr. Price has performed twenty-four supra-vaginal hysterotomies without a single death. We must remark in passing that Price operates only for actual disease, not for symptoms.

The Mississippi Valley Medical Association.

The meeting of the M. V. M. A., is always the event of the year in medical circles. There is not a medical society in this country that is "in it" with this association as far as hard, earnest work and *bonhomie* among its members are concerned. Ethics, medical politics and jingoism are a *terra* incognita to the M. V. M. A. Fossilism is unheard of, and as a result the officers are always young, active and talented men. The meeting of 1890 is to be especially favored by the presence as president, of one of the most talented men in the South—yea, more, the United States. (Which means the world.) It is hardly necessary to mention his name, but not to do so would be to leave H—t out of H—t. (We would write this out, but the *Medical Mirror* steals all of our original quotations.) Dr. Joseph M. Mathews, of Louisville, needs no introduction to the American medical profession.

The meeting at Louisville, Ky., occurs October 8, 9 and 10, and will doubtless be the most successful of the many successful meetings of the association.

To meet such men as Larrabee, Wathen, Cheatham, Roberts, Grant, and others upon their own stamping ground will be well worth a trip to Ky. Among others who will be on hand are the learned and dignified Ouchterlony, big chested and brainy

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Dudley Reynolds, the only original Palmer, the old reliable Abram Owen, of Evansville, the courtly McMurtry and the ubiquitous and effervescent Love, of St. Louis. Arch Dixon has promised to provide a roast possum, and Love has agreed to give the "Medical Looking Glass" a rest and permit the "Medical Hammer" to live for three consecutive days. These attractions alone, are well worth the price of a ticket.

We are desirous of making up a party among the Chicago doctors, and would be pleased to hear from any who contemplate going. Come early and avoid the rush for Dixon's roast possum. The journalistic Poo bah who presides in the chair of the editor in chief of the Reporter, in conjunction with his humble yet numerous associate, will endeavor to pilot the party successfully and safely between the Scylla of science and the Charybdis of good fellowship, to be encountered in Louisville.

Dr. Joseph M. Mathews,

President of the Mississippi Valley Medical Association.

The subject of this sketch is one of the best known and most popular surgeons in the United States. Dr. Joseph M. Mathews was born in 1847, and is now forty-three years of age. He enjoyed a fine classical education the fruits of which are seen in his writings and public speeches. He graduated in medicine in 1867, and entered at once upon a country practice in his native town. He removed to Louisville, Ky., in 1872, and did a large general practice until 1878 when he went to London, Eng., and became associated with the celebrated Allingham of St. Marks Hospital. Upon his return to Louisville, Dr. Mathews entered upon the special practice of rectal diseases, and is to-day regarded has among the best authorities upon this class of affections. He was the pioneer specialist in rectal diseases in this country. Dr. Mathews was formerly lecturer on diseases of the rectum in the Hospital College of Medicine in Louisville. He has, however, for a number of years been Professor of Surgery and Diseases of the rectum, in The Kentucky School of Medicine. Dr. Mathews occupies many important public positions—he is surgeon to the Louisville City Hospital, and the Sts. Mary and Elizabeth Hospital, president of the Miss. Valley Medical Association, and of the Louisville Clinical Society.

Dr. Mathews was a very close second in the race for the presidency of the American Medical Association this year. He was selected to deliver the address on surgery at the meeting in Washington in '91. That Dr. Mathews is editorially prominent, the pages of "Medical Progress" bear witness.

Dr. Mathews is probably the finest speaker in the American medical profession—always at his ease, with perfect command of language and never at a loss for a subject or phrases wherewith to clothe it, he is at all times a representative of whom the medical profession may well be proud. To be considered a great orator in Kentucky, the home of orators, is indeed a distinction in which Dr. Mathews may take pride, and nowhere is he done more honor than upon his native soil. The fact that he is to preside at the meeting of the Mississippi Valley Association in Louisville, Oct. 8, 9, 10, is a sufficient guarantee of its success.

Dr. Billings' Paper on Bacteriology in Medicine.

The readers of the REPORTER surely appreciate such material as was furnished them by Dr. Frank S. Billings, in our last issue. Such articles are a credit to American scientists. It is a pity that the field of human pathology could not hold out sufficient inducements to such men as Billings to devote their time and talents to the science of medicine proper. But scanty is the reward of him who works for humanity. Dr. Billings has spent a large private fortune in his scientific work—the hog may *recoup* him, the human animal never.

Our Creed Summarized.

Motion philosophy teaches: That every force of nature or phenomena producing cause, whether in the physical, organic, conscious or spiritual realm, such as heat, electricity, magnetism, gravitation, light, sound, cohesion, life, instinct, mind, soul or spirit, is a mode of motion and originates from a substantial, though immaterial entity, which is as really objective as are any of the material objects around us. On this broad foundation the motion philosophy now takes its stand and challenges the education of the philosophical and scientific world. SILAS HUBBARD, M. D.

Hudson, Ill., July 31, 1890.

An Insect's Fatal Bite.

J. Baker, a 17-year-old negro boy, died June 14th, in Indianapolis, from the bite of an insect, which he believed himself to be a small spider, but the doctors think that it must have been a blue fly. Whether spider or fly, it bit him on the lip May 6th, and in brushing it away he crushed it. The bitten place soon began to swell and he rapidly grew worse. He suffered the most excruciating agony, and Wednesday became unconscious and remained so until a little while before he died.—*Ex.*

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Notes on the Alkaloids.

THE NARCOTIC ACTION OF CODEINE.

Although codeine was discovered sixty years ago and its valuable properties have been fairly well recognized in France, where it was discovered, outside of this country but little attention has been paid to its valuable properties. We have recently referred to several papers which point to the value of codeine as a substitute for morphine, and the number of publications which further strengthen this position is rapidly growing. The most recent is an article by Dr. Loewenmeyer, who publishes in the *Deutsche Medicinische Wochenschrift* for May 15, 1890, an article based on the administration of five thousand different doses of this remedy to four hundred different patients in the Jewish hospital of Berlin. Dr. Loewenmeyer also states that he has employed codeine with considerable success in a large number of cases of pain having their cause in the urino-genitals; ovarian pain being especially amenable to the action of this remedy.

It is in diseases of the thorax and diseases of the respiratory tract, however, in which the author becomes most enthusiastic in recommendation of codeine. In phthisis, especially, morphine is not to be compared with codeine as capable of removing the stitch in the side, the feeling of pressure in the chest, the dyspnœa and the distressing painful cough which so frequently accompany these cases. The author adds that since he recommended to use coedine in such cases, morphine has been but rarely administered. So also in other affections of the respiratory tract, such as in pneumonia, bronchial catarrh and pleurisy, codeine has been employed by the author with success. Pulmonary asthma also has proved amenable to its employment, and it has been found that the majority of these cases may take codeine for months at a time without any unfavorable effect or without any reduction in the intensity of its action. Heart disease is claimed by the author to be no contraindication to its use, even in cases of marked fatty heart it may be used with success. In cases of nerve affection, however, such as organic disease of the brain and spinal cord or neuralgia of peripheral nerves, although codeine may, perhaps, fail to produce any effect upon the pain, it nevertheless has valuable properties, according to the author, as a hypnotic; and, even where insomnia is due to pain, relief may be confidently expected in the majority of cases from the use of codeine.

After all, perhaps, the strongest recommendation for codeine, provided its narcotic properties be granted, is that it seems to be free from any liability of establishing the opium habit, and is, in fact, used by Schmidt (*Wiener Medizinische Presse*, 1889, No. 43) in the treatment of morphinism.

Dr. Schmidt claims that when codeine is employed in cases of morphinism, the craving for morphine is rapidly overcome, and that after a very short time the doses of codeine may be rapidly reduced; and that while the treatment is being employed, the symptoms which would otherwise accompany suppression of the use of morphine, are absent.—*Ther. Gazette.*

THE VALUE OF CODEINE.

Dr. G. Kobler has made a number of experiments in the clinic of Prof. von Schrötter, in the Vienna Hospital, as to the value of codeine in controlling coughing in cases of tuberculosis of the lungs and larynx (*Zeitschrift für Therapie*, April 1, 1890). The desirability of obtaining a remedy which in such cases may be substituted for morphine is very evident, from the fact that many patients are incapable of taking morphine. There are many cases where the continued employment of morphine in ordinary dose is quite impossible, and recourse must then be made to such remedies as extract of hyoscyamus, extract of cannabis indica, and the like, which too often prove themselves to be without value.

As the result of his studies, Dr. Kobler states that codeine far surpasses all the latter remedies, both in the reliability and safety of its action; while it is likewise, as a rule, free from unpleasant after-effects, though occasional complications attend its use. Codeine is an opium alkaloid, generally regarded as possessing but little narcotic power, and best known as a more or less valuable remedy in diabetes mellitus.—*Ther. Gazette.*

CODEINE.

Dr. L. Brunton has found codeine in doses of one-fourth to one grain more efficient than morphine in relieving pelvic pains. It caused no stupor and did not interfere with digestion.

THE THERAPEUTIC POWER OF ANEMONINE.

We have already alluded to the value of the different preparations of this member of the Renonculaceæ group, anemone pulsatilla, as recommended by Huchard and Eloy in diseases of the heart, and recently it has been further recommended by Dr. Bazy in the treatment of gonorrhœl orchitis. The latter, in his hospital service, as reported by Dr. Dormant in his thesis on this subject, relates forty-three cases of this affection in which thirty-seven were perfectly cured without any other medication whatever.

Struck by these facts, Dr. C. Bovet has tested the value of this drug in similar pathological affections of the female pelvic organs, employing first the tincture and then the active principle anemonine. His results, the author claims, warrant him in designating anemonine as the analgesic *par excellence* for reflex painful affections of the uterus, especially in the diverse pathological conditions which are accompanied by menstrual pain, whether dysmenorrhœa or amenorrhœa, or whether the symptoms result from metritis or perimetritis, or inflammation of the ovaries. He states that his experience in all comprises thirty-four cases, of which twenty-two were of difficult menstruation without discoverable anatomical cause, eight cases of metritis and perimetritis, two of uterine prolapse, and two of ovario-salpingitis. The author claims that in all of these cases anemonine served to relieve pain within forty-eight hours.—*Ther. Gazette.*

An Ignorant Oculist Optician.

Dr. Occult—My Dear sir, the strabismus of your daughter's right eye is of no consequence and glasses are not needed for its correction, since the left is irreparably opaque and the optic nerve is disintegrated.

Seth Grubb—Let's go, Molly. The durned fool don't know your right eye's crossed and the left one blind as a bat!—*Jeweler's Weekly.*

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Book Reviews.

"Manual of Skin Diseases." With Special Reference to Diagnosis and Treatment. For the Use of Students and General Practitioners. By W. S. Hardaway, M. D., 1890. Square Octavo. Pp. 434.

The present volume consists of a revision and elaboration of the lectures series delivered to the class in Dermatology of the Missouri Medical College. Dr. Hardaway speaks and writes on this subject with a knowledge born of experience and has made some valuable suggestions as regards treatment of skin diseases.

The arrangement of the diseases in alphabetical order, is a wise one, adding much to the value of the work as a text book, while the diagnosis and treatment of each disease is considered in a manner which shows a thorough knowledge of the subject.

"Practical Electricity in Medicine and Surgery." By G. A. Liebig, Jr., Ph. D., and George H. Rohe, M. D. Profusely illustrated. Philadelphia and London: F. A. Davis, 1890.

This work is divided into three parts. The first includes the physics of electricity, batteries, etc.; part second treats of electro-physiology, electro-diagnosis and electro-medical apparatus; part third is devoted to the therapeutic effects of electricity and the methods of application. In this age of electrical discovery any new work which treats of the application of this agent to the treatment of disease is of interest. The above volume presents the subject in a clear and intelligible manner, and is free from embarrassing technicalities.

"A New Medical Dictionary." Including all the Words and Phrases used in Medicine, with their proper Pronunciation and Definitions, based on Recent Medical Literature. By Geo. M. Gould, B. A., M. D., Ophthalmic Surgeon to the Philadelphia Hospital, etc. With Tables of the Bacilli, Micrococci, Leucomaines, Ptomaines, etc., of the Arteries, Muscles, Nerves, Ganglia and Plexuses; Mineral Springs of U. S., Vital Statistics, etc. Small octavo, 520 pages. Half Dark Leather, $3.25; Half Morocco, Thumb Index, $4 25. Philadelphia: P. Blakiston, Son & Co. A. C. McClurg & Co., Chicago.

A good medical dictionary is an absolute necessity to every physician. The constantly increasing nomenclature, necessitated by the rapid growth of medical science, renders such a work indispensible. Several thousand new words with their definitions are given with rules for their pronunciation. Much valuable information is given, which does not properly come under the rule applicable to dictionaries. The work cannot fail to be popular and should be found in every medical library.

"The International Medical Annual and Practitioners' Index for 1890." Edited by P. W. Williams, M. D., assisted by thirty-six European and American specialists in their several departments. 600 octavo pages. Illustrated. $2.75. E. B. Treat, 5 Cooper Union, New York.

The "Medical Index" is in its ninth year, and the last volume bids fair to outrival its predecessors in popularity and excellence. It gives a *resumé* of all subjects embraced under the head of new medical discoveries, and in fact it is a complete encyclopœdia of medicine and surgery.

"Diphtheria: its Nature and Treatment." By C. E. Billington, M. D., and Intubation in Croup and other Acute and Chronic Forms of Stenosis of the Larynx, by Joseph O'Dwyer, M. D. Octavo, 326 pages. Price, muslin, $2.50. New York: William Wood & Company.

There is no disease more likely to try the skill and knowledge of the surgeon than diphtheria. In an emergency no time can be spared to consult authorities on the subject, as in many other cases, so it is imperative to have a fund of knowledge to draw on when necessary. The perusal of experiences by such men as Billington and O'Dwyer and their successful methods of treatment in diphtheria cannot but benefit their colleagues. The method of treatment by intubation is described, and the difficulties attending this somewhat dangerous operation, clearly explained. A colored lithograph, consisting of four views of diphtheria, also wood cuts of various instruments, embellish the pages. A consideration of the work will repay the student.

"Drug Eruptions." A clinical study of the irritant effects of drugs upon the skin. Prince A. Morrow, A. M., M. D., clinical professor of venereal diseases, etc., etc. Chromo lithograph plate. Wm. Wood & Co.; pp. 199.

The author is well known by his literature on dermatology and kindred diseases. The above work treats of the history, definition, classification, general characteristics, etiology, pathogenesis, diagnosis and treatment of drug eruptions. In alphabetical order he takes up the different drugs, giving the peculiar symptoms characteristic of the same, with mode of treatment applicable to different cases. A fine colored plate illustrating a case of iodide of potassium eruption, is a fitting frontispiece.

Mediastinal Disease.

Dr. E. S. McKee, of Cincinnati, reviews recent literature on the above subject as follows:

Hare[1], in his Fothergillian prize essay, enters into the subject very thoroughly. He gives the records of 134 cases of mediastinal cancer, 98 of mediastinal sarcoma, 115 cases of mediastinal abscess, 16 cases of non-suppurative inflammation, 21 cases of lymphoma of the mediastinum, 7 cases of fibroma of the mediastinum, 6 cases of hæmatoma, 11 dermoid cysts, 8 hydatid cysts, 104 cases of various mediastinal diseases. The author makes the following brief summary of his conclusions:

1. Cancer is more frequently found in the mediastical spaces than any other morbid process.
2. Abscess is the morbid process next in frequency of occurrence.
3. Sarcoma occupies a third position as to frequency of occurrence.
4. Lymphomata and lympadenomatta occupy a fourth place, but are much more rare than the others mentioned.
5. The anterior mediastinum is affected far more frequently than are the other two spaces.
6. Most mediastinal growths occur in adults.
7. More males are affected than females by mediastinal diseases, be that disease what it may.
8. Cancer and sarcoma of this space are necessarily fatal.
9. Abscess is recovered from in about 40 per cent of the cases.

Edwards[2] reports a case of carcinoma of the mediastinum in a child, and reviews 67 cases of mediastinal disease previously recorded. He finds that mediastinal disease varies in children from that in adults in that sarcoma is the most frequent morbid process, carcinoma next and abscesses third in order of frequency.

[1]Hare. Fothergillian essay, 1888. P. Blakeston & Co., Philadelphia.

[2]Edwards, Archives of Pediatrics. July, 1889.

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Western Medical Reporter.
A Monthly Epitome of Medical Progress.

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ORIGINAL ARTICLES.

The Surgical Conception of Peritonitis.

BY JOSEPH PRICE, M. D., Philadelphia.

Within the last few years there has gained, in the minds of those who have followed the principles of surgery, which always look for cause where there is an effect, a gradual clearing of their conception of the condition called "peritonitis." The word used to be whispered in awe, and the general idea of its existence was surrounded with a veil of mystery which, like the ark in the temple, none dared approach, much less to touch. In the earlier days of abdominal surgery, Baker Brown exclaimed, "It is the peritonitis that beats us," but, unluckily, did not stop to inquire or discover why peritonitis came upon the field conquering and to conquer. With the earlier surgeons, just as with the earlier and many physicians of the present, peritonitis was looked upon as an accident, and was treated accidentally in the full sense of the word. Cause and effect were not sought for, and so were not found. When finally it was noticed that the cases dying of peritonitis had pints, quarts, or gallons of fluid in their abdomen, or blood, may be, a relation between the two was finally traced and much of the mystery was cleared away by draining. The idea once gained, that a foreign matter had much or all to do with the condition, when serum was not found other cause was looked for and so often discovered, either directly or through flaw in the operation, that now it is finally concluded that peritonitis is never accidental or idiopathic. This is true, at least, of the surgeons. So far as the exact diagnosis of the condition was concerned, little attempt was made toward it, though by physicians generally, thoracic disorders of a similar kind were confidently located and treated. All in all, it has remained for surgery to clear away the error and misconception of the abdominal varieties of the disease, and even now to invade the thorax and urge in diseases therein peculiar that the same line of treatment be followed out as in the abdomen.

It needs no statistics to prove that but a short time since, all cases of peritonitis were treated alike without any efforts being made to discover the cause. Abdominal surgery, beginning with the grosser ovariotomy, demonstrated plainly that to ruptured cysts and twisted pedicles, enough opium had been given to narcotize the land, and enough flaxseed wasted to oil the wheels of the universe.

Going over from diseases of women into the abdomens of men, case after case was demonstrated, in which an appendicitis was at the bottom of many of the so-called idiopathic cases of peritonitis. Until now, no matter what the disease or the organ affected, given a certain set of symptoms the nature and cause of the condition are at once suspected and attention directed thereto. But if in general disease so great a change has been wrought, it is the special field of those peculiar to women that the greatest change of attitude is to be observed. This is true, both owing to the anatomy and physiology of her sex. Anatomically, her peritoneum is constantly exposed to outside infection. Physiologically, she is called upon to perform functions that render her liable to this infection. Not only do her natural functions conspire to endanger her, but she is a victim of the misdeeds of men, and thereby rendered especially liable to peritoneal inflammations. Once it was discovered that gonorrhœa was readily transferred along the fallopian tubes, the nature and pathology of many hitherto puzzling cases of abdominal inflammatory trouble was suddenly cleared up, and therefore of peritonitis, due to another cause. This pathology and the kindred one of dirt-infection of all kinds, have led to the most significant change in the handling of women in all classes and conditions of society, and has revolutionized the methods of treatment of many diseases—especially of those incident to childbirth. Within the memory of many still alive, childbed fever was looked upon as a visitation of Providence, and so treated by expectation and prayer. When Oliver Wendell Holmes, then a young man, insisted upon the essentially specific nature of the fever, two of Philadelphia's most renowned obstetricians derided, in the light of their great experience, the chimerical notions of the hair-brained youth, who has since lived to see his views taught where they were once derided. This practical spirit of investigation *versus* faith, in all things that pertain to disease, nowhere has shown so brightly as in the domain of surgery, and nowhere in any set of diseases as those formerly ranked under the head of peritonitis. But the benefits have not only accrued to women, but to their children. Cleanliness, and douches to obtain it, urged primarily to protect the mother, resulted secondarily in saving the lives of many children, and when not their lives, their sight. This is one of the proudest triumphs of antiseptic cleanliness. Going outside for an instant, of the domain of medicine, and entering the field of sanitation, modern systems of plumbing and drainage have been revolutionized by obstetrical, and indirectly, surgical observation upon sepsis from drainage. High temperature in the presence of plumbing, and their absence in presumably filthy localities where no plumbing was present, could not help but attract attention to the existence here again of cause and effect. This alone in all lying-in hospitals must ultimately be accepted as a demonstrated fact, and if a perfect system is to be hoped for, will lead to the exclusion of all closets beyond the limits at which infection is possible.

Thus it will be seen that in obstetrics, especially, the surgical conception of the nature of peritonitis alone, easily is equal in importance to any of the many forward steps of the day. But the field of its importance goes still further, and aims at improving even surgery itself. In other words, surgery discovers surgical peritonitis, and strives to find its cause. In the modern gynecology many of the minor procedures are arranged at the bar of surgery, and compelled to render an account of themselves. Under this head come intra-uterine applications, use of the sound on all possible occasions, dilatation and scraping of the uterus and cervix, closure of the perineum and cervix followed by ovarian and tubal disease. Here exact scientific surgery calls upon the minor gynecologist to keep hands off. It warns him that not every cer-

vix can be touched with impunity, and that if there is suspicion of pelvic disease or inflammation, such cervix is not to be touched at all.

It warns the promiscuous dilator of cervices that the ruthless laceration of the cervical canal is more liable to cause disease than to cure it, and that a forcible destruction of cervical integrity is worse than a laceration at childbirth, under ordinary circumstances. It teaches the "conservative" gynecologist, who tries to cure pelvic disease by the derivation of cervical operation, that shortly he will have a second and worse operation, due to his first.

Going still further, the appreciation of constant local peritonitis in a class of operators' work, it looks to them for the cause, and cries halt to their pretences to pass judgment upon all surgery of the kind because their own results are bad. It recognizes in the failures their causes. Under this head may be classed fistulæ, stercoral and others; adhesions to stumps of intestines, and general intestinal adhesions. It recognizes the fact of incompetency to judge of the value of certain procedures in that their failures are peculiar to these censors only. This is especially true of those who condemn the drainage-tube as causing the last-named complications. The treatment of the stump, when faulty or careless, is often a cause of localized peritonitis, and the after adhesions produced are often as annoying and painful as the original disease. The introduction of antiseptic solutions into the abdominal cavity has been found a fertile source of peritonitis, resulting in universal adhesions of the intestines, omentum, and parietal peritoneum.

Here surgery unlearns and teaches the necessity of not causing what it is its function to remove, and by showing the danger of a supposed refinement, not only exposes its non-efficiency, but also its absolute danger, as a cause of a most serious non-suppurative peritonitis. Here again surgery has demonstrated the kinds of peritonitis, and hence, placed a dividing line between the cases that tend spontaneously to recovery, and those that demand operative treatment. Simple non-suppurative, congestive, inflammatory peritonitis occurs frequently, as a sequel of excessive or prolonged hyperemia, or from simple traumatism. Such, for instance, are the irritative adhesions above referred to. Suppurative peritonitis, arising from foreign septic matter, is entirely distinct, and may be called specific. It has a pathology of inflammation, but is septic from its origin.

These are the traumatic cases from stabs and gunshot wounds. It is exceedingly rare for wounds of this order in the abdominal cavity not to result fatally. In this direction the teachings of abdominal surgery on the subject of peritonitis are now the wonder and admiration of the civilized world. We have in our Society a surgeon now renowned in peace, as he was steadfast in his duty toward the wounded during his long service. He says now that he would like to live again through the misery of all his sad experience just to save his cases of abdominal gunshot wounds. The surgical conception of the nature of all operations upon the abdominal viscera has led to the abandonment, not only of the dicta of the past, but to its utter and entire demolishment. It has led to the annihilation of all statistics of the past as so much garret rubbish, and has laid out a new field for itself, into which no one but the elect, under the new dispensation, can hope to enter. So far as traumatism is concerned the prevention of peritonitis by prompt interference was sought. But experience in this very line has opened a new field in utilizing peritonitis as a saving agent in certain surgical procedures; I mean in intestinal anastomosis. Here we rely upon a localized adhesive peritonitis to effect a cure in conditions where, without it, the danger would be vastly greater than it is. Before the study of adhesive localized peritonitis the operation of intestinal anastomosis would have been impossible, and the operations for the resection of intestine, with the consequent prolonged stitching and other manipulation, was the only resource. This operation is, perhaps, the most notable example in all the range of the art of utilizing what is commonly regarded as a calamity, for conservative surgery. But this is not all.

The knowledge applied in such cases renders possible, in many cases, what would be otherwise tedious and dangerous, closing procedures in many of the major gynecological operations, a certain speedy resort to the saving results of adhesive peritonitis: I refer especially to hysterectomy. Without the certainty that the parietal peritoneum will surely unite almost at once with that of the stump, the operation of supra-vaginal hysterectomy would be rarely attempted with any hope of success. As it is, the rapidity with which the two serous surfaces unite, shuts off the peritoneum at once from the danger of infection, and renders safe thereby an otherwise hazardous procedure. But now, if the surgical conception of peritonitis has opened up a new field of operative surgery, it has closed a most pernicious field in medicine. Where trauma exists, or is reasonably suspected, the rule is now, not to wait and make the patient regardless of both life and death by opium, but to operate to save at once. Gunshot wounds excepted, perhaps nowhere so much as in appendicitis has trauma lately received so much attention as the cause of a peculiarly insidious disease. As a result, we will have fewer deaths from this cause, the more it is studied and appreciated, and the more its real nature and cause are appreciated as being essentially a suppurative peritonitis. In the presence of suppurative peritonitis, most common in women, by reason of their greater risk and liability to external septic influences, the treatment is entirely revolutionized. If the abscess is limited and due to a suppurating tube or ovary, its inflammatory limits are mapped out, the disease is attacked at its fountain head, and the patient is cured simply because we now know that the limitation of such a collection cannot be permanent, and that there is no safety with pus anywhere within the limits of the abdominal cavity. Here the surgical treatment of peritonitis by the salines is of no avail, though it will relieve pain almost as promptly as opium, without a tithe of the inconveniences of that drug. In the non-suppurative inflammatory exudates of a simple irritative peritonitis, salines or calomel, the saline treatment, is the common inheritance of all surgeons and of a few physicians—too many of whom are as slow to accept it as really efficacious, as they are to aspirate a pleurisy without delaying until the lung is carnified and the patient translated.

After inflammations subsequent to childbirth, with our knowledge of the frequency of outside contamination, with the consequent septic involvement of the peritoneum, fatal cases should now be the exception. My own experience in this line of cases is increasing

almost weekly, and the results of interference, surgically, are such as to encourage me as to the ultimate general acceptance of the opinion that most cases of post-partum suppurative peritonitis should recover.

The danger in delay is that a general septic condition be established and that accordingly local treatment will be of no avail; to open the abdomen, irrigate with hot water, place a drainage-tube in extreme cases, is sometimes the only resource.

This, in these cases, must be only the preparatory step to subsequent operation to remove all cause for future trouble. My success in these cases has been more than a justification for any statement concerning them that may seem too positive. They stand out in pleasant contrast, with the opium-fed, poultice-clad, mortuary list that every day is heard of. For the reference of the Fellows, I wish to record a few typical cases in the proceedings of the Society:

Case 1.—Mrs. B:, aged twenty-eight years. Seen five weeks after labor. High temperature; rapid pulse; rapid progressive emaciation; profound sepsis. Abdominal section revealed thickened omenteum adherent over entire pelvis; right pyosalpinx and abscess the size of an orange in the ovary; universal adhesions; six inches of ileum cheesy and disorganized to the mucous coat along the line of adhesion on the right side. A knuckle of bowel was opened in enucleating the appendages; it was trimmed and stitched; there was purulent peritonitis, and one pint of pus free in pelvis, from leakage; appendages removed; cavity irrigated and drained; recovery.

Case 2.—Mrs. M., aged twenty-four years, seen twenty-one days after labor. Abdominal section showed acute puerperal pyosalpinx on the left side, and general purulent peritonitis; bowel, omenteum, and pelvic organs matted together by friable adhesions; left tube gangrenous; right tube congested, but showed no evidence of pus; only the left tube removed; irrigation and drainage; recovery.

Case 3.—Mrs. W., aged thirty-six; seen twelve days after labor; most profoundly septic. At the section universal friable adhesions were found; both appendages absolutely gangrenous; uterus large and soft, with cheesy walls; removal of both appendages; irrigation and drainage; recovery.

Case 4.—Mrs. F., aged twenty-three; seen four weeks after labor; removal of both appendages for left pyosalpinx and ovarian cyst; right tube occluded, adherent, and acutely inflamed; adhesions universal; general peritonitis; irrigation and drainage; recovery.

Case 5.—Mrs. S., seen two years after labor. She had puerperal fever and was in bed nine months; since then has been a hopeless invalid, with loss of locomotion, constant agonizing pain, great emaciation, constant nausea and recurring attacks of peritonitis. I removed a left pyosalpinx and ovarian abscess; dense bowel adhesions; omentum, bladder, and uterus glued together; irrigation and drainage; recovery from the operation and cure.

It should be noted that:

1st. All were cases of true "puerperal fever."

2d. All were saved by section, after well-directed medical treatment.

The operations were undertaken to save life, not to demonstrate ideal surgical procedures.

The Evolution of the Local Venereal Diseases.

By G. Frank Lydston, M. D. Chicago, Ill.*

It was invariably taught until quite recently that the viruses of chancroid and gonorrhœa were specific entities which were always and invariably the same, their inoculation being followed under all circumstances by similar and typical results. Indeed, I myself accepted this view so confidently that it is with some hesitancy that I will endeavor to present views that are diametrically opposed to those which I formerly believed to be correct. When Drs. Taylor and Bumstead, in their excellent work upon the venereal diseases, advocated the doctrine that the chancroidal virus was not a specific entity, and that chancroidal ulcerations differed in degree only, rather than kind, from ulcers of a simple character, there were very few, indeed, who did not antagonize their views. It is only within a very short time that I have been convinced, from observation and experience, that chancroid and gonorrhœa are diseases which may arise *de novo*, and which, in the true sense of the term, are not specific. It is only by the acceptance of this theory that it is possible to understand something of the origin of chanchroid and gonorrhœa, and which we certainly cannot do under the old and generally accepted doctrine of specificity.

While we may not be able to positively demonstrate the origin of the poisons of all infectious diseases, it is difficult to comprehend that a "specific" poison has always existed in any case, and it is certainly a great step in the advancement of medical science when we became able to trace the poison of any particular specific disease to its source. We have not been able to do this with many diseases, for it is fully as difficult to understand the circumstances under which certain morbid entities affecting the human body sprang into existence, as it is to comprehend the precise conditions under which vitality itself first made its appearance in matter hitherto inert. A few of the morbid conditions affecting animal life have fortunately been traced to their origin, and, through the germ theory, we have at last begun to see a little light in regard to the origin of infectious diseases. Even at the present day, however, very few scientists are looking in the proper direction for the origin of disease, for if we admit that the germs of disease are living entities, why is it not logical for us to bring to bear upon them the same laws of evolutionary progression, differentiation, and development that we now apply to all other living creatures?

Disease is incident to the life of every animal, and as we study the evolution of the animal, so should we study the evolution of its diseases. Every phase of animal development and progression is subject to adverse elements of various kinds; thus each animal is relentlessly pursued by foes of a higher or lower evolutionary development. Man, with his superior power born of knowledge, has been able to contend successfully with all of those elements which are inimical to his welfare, with the exception of those apparently insignificant little organisms—the germs of disease. As man himself has become differentiated through varying circumstances of environment, so have his foes become differentiated; hence he has become

* Address before the St. Louis Academy of Medicine.

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more susceptible to the inroads of certain forms of disease-germs, but less susceptible to others; certain varieties of germs have become extinct, while new forms have been developed; others, again, have become so modified as to bear almost no resemblance to the parent stock. By pursuing this line of study we may eventually find that many diseases which are now apparently quite dissimilar, have become so by the differentiation of the germs upon which they depend, and perhaps may discover the circumstances which have brought about such differentiation.

In applying this theory to chancroid, I first desire to call your attention to a few analogical arguments that are certainly striking. We will take as our point of departure diseases of a known or alleged specific nature, and see if we cannot find elements in two forms of the same disease which are more dissimilar than are simple genital ulcers and chancroid. In small-pox we note several degrees of severity, from a varioloid, in which there perhaps exists but a single pustule, to the variola hæmorrhagica, or maligna, which is so fatal to life. The resemblance between these two extremes is very slight, yet they are the same disease. Or, to go still farther, note the difference between small-pox and vaccinia. Not much resemblance between the two you will admit, yet the poison of the latter is a derivative of the former, and by its action the human system is rendered insusceptible to the attacks of its more vigorous and noxious ancestor.

In scarlatina we have all grades of severity, from the walking form, in which one would hardly know that the child is ailing, to the scarlatina anginosa, or maligna, in which the life of the little victim is so rapidly destroyed. A singular fact is that in the severe forms of scarlet fever the angina assumes characteristics so severe, and of so peculiar an appearance, that the doctor is compelled to say, "This child also has diphtheria." Do you believe that the system of the child could be a field for strife between two infectious constitutional diseases of so pronounced a type? I do not; but I am convinced that these cases are an illustration of the manner in which certain diseases, supposed to be separate and distinct, are co-related; and, furthermore, of the possibility of their development *de novo*.

Typhoid and typhus fevers have numerous degrees of severity, the extremes of which are strikingly dissimilar, although the *materies morbi* is invariably the same. We know, too, that typhoid and typhus fevers may develop *de novo*, under favorable circumstances of environment.[1]

Malarial fevers vary in severity from a slight ague shake followed by fever to the pernicious type which speedily destroys life. Clinically, malarial and typhoid fevers are frequently confused.[2]

Septic infection in surgical diseases may result in one of several degrees of severity of blood-poisoning, from the slight febrile disturbance, which was formerly termed "traumatic fever," to the overpowering and speedily fatal septæmia, which is so nearly identical to snake-bite in its effects upon the blood. Interposed between the two we have acute and chronic pyæmia. These phases of disease differ widely, yet they are one and the same, and due to the same cause.[3] Erysipelas is a disease which may vary in type from the slight form of inflammation which is hardly more than an erythema, to such a severe form as that which sometimes affects the scrotum, and not only causes sloughing but often a fatal result. Can we detect the slightest resemblance between the two? I think not; yet they are the same disease. Inoculate your finger with blood drawn from a patient with erysipelas of the face, and you may escape erysipelas entirely; if you do not it is apt to occur in a mild form. If, on the other hand, you inoculate yourself with the secretions from a sloughing scrotum, and you do not die of septæmia, the least you can expect is phlegmonous erysipelas of a severe and dangerous type.

I would also call to your attention the vast differences which exist between the different forms of puerperal disease; thus, we meet with cases of peritonitis, cellulitis, phlebitis, and acute fatal septæmia, all due to the varying conditions and effects of the same *materies morbi*.

Further illustrations are, perhaps, unnecessary, but I must not omit the most important analogy of all, viz., diphtheria: Recent observations of a clinical character have shown us that the diphtheritic virus, germ, influence, or whatever you may choose to term it, is capable of producing many different phases of disease of the naso-pharynx, varying from a slight and, apparently, simple sore throat with little or no constitutional symptoms (catarrhal diphtheria), to an exudative malignant affection capable of rapidly destroying life, and invariably producing the most profound constitutional disturbance. We know that epidemics of simple sore throat are closely associated with epidemic diphtheria. With the coming and going of an epidemic of diphtheria especially, as well as during its maximum dissemination throughout a community, we observe many cases which, while they do not present the typical characters of diphtheria and the diphtheritic micrococcus cannot be found in the pharyngeal secretions,[1] are nevertheless due to the same influences as diphtheria proper. When diphtheria exists in a family of several persons, it is often observed that apparently simple sore throat will appear in some members of the family while others are affected by genuine diphtheria, and that the simple cases often become transformed into the more malignant type. Physicians in attendance upon cases of diphtheria are often affected by sore throat of greater or less severity; this being my own experience whenever I attend cases of this character for any length of time. A defective drain has been known to affect different members of the same family with morbid conditions of the throat, varying from trifling soreness to malignant diphtheria, and also with varying types of essential fever.[2]

I have mentioned these many facts, which are apparently so foreign to the subject of chancroid and

[1] This was strikingly illustrated by the epidemic of typhus fever which occurred in New York in 1880-81.

[2] When absorbed by the lungs hospital miasm has been known to produce effects closely resembling malarial poisoning, and curable by quinine.

[3] With due deference to the recently published papers of Dr. Senn upon pyæmia, in which, if I interpret him correctly, an opposite view is expressed.

[1] Some of the more recent investigations tend to show that there are several forms of micro-organisms found in diphtheria, none of which are characteristic, and all of which are found upon the normal mucous membranes.

[2] Lee, Dr. L. J. W.: Influence of Diathesis upon Contagion. New York Medical Record. vol. xxv, No. v, p. 84.

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gonorrhœa, to demonstrate the varying results which may be produced by the evolution of the same poison.

Now, what is the reason that these so-called specific poisons manifest themselves so differently under apparently identical circumstances? Simply a varying virulency of the poison upon the one hand, and varying susceptibility upon the other, these variations being comprehensible to me only upon the hypothesis of evolutionary changes in the germ as well as in its field of action, *i.e.*, the human system. Let us consider this hypothesis, and see if the variation of the phenomena of disease is not dependent upon a variation in what has heretofore been considered an unvarying entity—a specific germ—and if even the noxious or poisonous property of the germ may not be an ingraft upon it, or at least a matter of development. Let us take as our first point of departure those innocent germs, cocci, or, if you please, minute organized particles which everywhere exist in the atmosphere. These germs multiply by their own peculiar methods of procreation, and such multiplication is favored or opposed, as the case may be, according to their environment. Filth, heat, and moisture, and protection from air and light, favor the development of many such organisms. It is obvious that successive crops of germs are possessed of properties which diverge more or less from those of the parent stock. This is a universal law that applies to all living organisms. The newly acquired properties are modified or varied according to varying circumstances of environment. Whether it is the germs proper, their secretions or excretions, if such there be, or new and complex compounds produced by their action upon putrescible matter,[1] that produce their peculiar effects upon organisms more highly differentiated than themselves, it would be difficult to determine, but it is at least conceivable that, sooner or later in the process of evolution, germs are developed which are possessed of properties by virtue of which they are capable of producing definite effects upon the human system. Thus we have, by evolution, the spontaneous generation of so-called specific poisons. Now, do not understand me to say that the germs themselves are spontaneously developed, for while such an event is perhaps possible, it is as yet disputed by the best scientific authorities. What I do claim is, that the poison of disease may be developed by the evolution of, and acquirement of new and toxic properties, by germs which were primarily innocuous.

Having arrived at a stage of development when it is capable of producing definite morbid effects upon the system, we might suppose that this germ would cause invariably similar effects upon the human economy. But the law of evolution still follows the germ of disease in its tour of mischief, and as I have attempted to show you from a clinical standpoint, modifies the resulting phases of disease most markedly, independently of the special properties of the individual germ.

The conditions modifying the results of germ infection are, as nearly as I can understand them, as follows:

1. The degree of virulency and vitality of the germ at the time it enters the tissues or blood of a human being.

[1] Ptomaïnes or leucomaïnes.

2. The inherent vitality of the individual, or his resisting power at the time of infection.

3. Individual susceptibility to the particular disease represented by the germ, *i. e.*, idiosyncrasy.

4. The condition of the eliminitive apparatus of the person affected.

5. If the disease germ has a special predilection for any particular tissue the result will be modified by the condition of that tissue at the time of its infection, *e. g.*, the typhoid bacillus and the comma bacillus of cholera Asiatica most readily affect those who have morbid conditions of the alimentary canal. Diphtheria is most apt to attack persons with acute or chronic naso-pharyngeal disease.

6. And one of the most important of all, the number of germs and the length of time during which the patient is exposed to their influence.[1]

Although not usually attributed to evolutionary laws, some of these ideas in relation to the development of infectious diseases are already pervading the profession to a slight extent. Probably the nearest approach to a thorough exposition of the subject is an essay by Dr. De Gorrequer Griffith, of London, entitled the "Unity of Poison."[2] In this article the learned author has shown quite plainly the corelation of certain infectious diseases formerly supposed to be separate and distinct affections.

Now to attempt the application of this theory of the spontaneous development of specific poisons to the development of the viruses or germs of the local venereal diseases:

The idea that the chancroidal poison is one which has always been inseparable from the human species, is of course untenable. Somewhere along the line of our ancestry chancroid appeared, but at what time history does not tell us. The human race in general must have begun existence with a considerable capital in the form of a healthy organization, and every disease which now affects unfortunate humanity must necessarily have developed since the species originated. As the races have become differentiated, or have diverged, new circumstances of environment have been encountered which have modified the organism of the human being, and in the course of evolutionary progression many and various diseases have arisen.

This fact has been due to—

1st. The appearance upon the scene of weaker and more susceptible organizations than those of the parent stock.

2d. Changes of telluric and climatic influences.

3d. Injuries and vicissitudes experienced in the struggle for existence, modifying the organisms of numerous individuals, such modifications being transmitted to their descendants.

4th. Varying character and quantity of food and drink, alcoholics within a considerable number of generations having exerted a marked influence.

[1] Virchow has shown this to be eminently true of septæmia.

[2] Midland Medical Miscellany. As expressed by Griffith, this theory implies "the unity of poison and differentiation of resultant phenomena which we call symptoms—not because of any difference in the poison which may be the *origo mali* of so-called various diseases, but differentiations dependent upon the media through which the poison passes, or npon which it falls, the evolutions and development of that one poison being marked by new phases, new manifestations to which rightly we should not apply the expression 'separate diseases' but rather call them simply what they are, the various expressions of the evolutions of that unity of origin, whatever it may be, which has set then all agoing."

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5th. Varying sanitary circumstances, involving crowd poison and other forms of noxious and contaminating animal matter.

6th. Varying personal hygiene, involving cleanliness, exposure to cold and wet and other influences which may modify individual constitutions. The question of sexual habits here enters into consideration and is necessarily of special importance in its bearing upon the evolution of the venereal diseases.

7th. The gradual and certain evolution and differentiation of, and acquirement of new properties by, living germs.

So much for the acquirement of disease in general.[1] Gonorrhœa and chancroid have probably arisen in a manner precisely similar to the evolution of other infectious diseases, and while it is premature to say that the poisons of the two diseases are precisely identical, I am firmly convinced that they are different in degree rather than kind, and of a similar origin to say the least. We are not lacking in authorities who believe them to be precisely the same. Dr. R. W. Taylor is one of the leading authorities who claim that chancroid is not a specific disease in the sense that we speak of variola, and that, moreover, its poisonous secretion is precisely the same as that of gonorrhœa. Dr. F. R. Sturgis also holds this view.

The origin of gonorrhœa and chancroid must necessarily be the same, if the evolutionary theory of their origin be correct. The vagina of the female is as ezcellent a nidus or hotbed for the generation of poisons as could be well imagined, and when we consider the large number of women who are affected by uterine or vaginal diseases, it is a matter of wonderment that the venereal affections are so few in number and manifestations.

There exists, even in perfectly healthy women, the circumstances of heat, moisture, protection from air and light, and the occurrence very often of local irritation in the form of excessive cohabitation. Superadd to these normal or quasi-normal conditions a suitable pabulum for the development of germs in the form of uterine or seminal discharges, and we are apt to have conditions decidedly detrimental, not only to the woman herself, but to the generative organ of any one with whom she may chance to have sexual congress.

Few women are free from disease; indeed, the woman who is perfectly sound is a *rara avis*, and in the uterine discharges bacteria may develop and wax fat. Many women, through ignorance in some cases, through natural physical indifference in others, are exceedingly unclean, and allow both natural and unnatural secretions to accumulate until the condition of their sexual organs is indeed filthy. This is especially the case in the low class prostitute, and unfortunately is often the case among women who are respectable or quasi-respectable. As has been remarked by others, in connection with the subject of urethritis and chancroid, the high-toned prostitute is not so open to impeachment upon the score of uncleanliness as those of a lower grade. In a general way it may be said that if every man could view for himself the actual condition of most of the women of easy virtue with whom he is brought in contact, there would be a decided improvement in the moral tone of the community. I may also add, that with the present unhealthy manner of living in vogue among the fair sex, many young men would give up all romantic ideas of matrimony, if they could but inspect the object of their ambition through the speculum of the gynæcologist. So much for uncleanliness and disease, independent of the question of virtue and morals.

As the circumstances of uncleanliness, unhealthy secretions, local irritation, heat, moisture, and deprivation of free air and light favors the development of germs, and particularly those of decomposition, it may be readily understood that after a time such a bacterial development actually takes place in the vaginæ of some women. The innocuous germs of the atmosphere enter, and begin their work of procreation or multiplication in an environment scanty in its supply of oxygen,[1] decomposition occurs, and *pari passu* with its new germs appear upon the scene which differ from the parent stock; and so the process goes on until a very irritating poison is developed. If during this time, the discharge from a diseased urethra be added to the noxious materials, or if semen be deposited in this hot-bed of putrefaction, so much the better for the development of a "specific" poison. Selmi and Gautier have shown that poisonous alkaloids develop from putrefaction, and it is to these poisonous substances or ptomaines that I am inclined to attribute the trouble in gonorrhœa and chancroid. The decomposition of semen is especially likely to produce such a poison. If this be correct, it is to the products of the bacteria, rather than to the bacteria themselves, that we must attribute the results of chancroidal and gonorrhœal secretions. It is, therefore, assumed that while bacteria may be present in cases of gonorrhœa and chancroid, they are by no means necessarily so. This would explain why scientific observers have found bacteria or cocci in some cases, while they have been unable to do so in others. The varying degree of acridity and quantity of ptomaines, and the varying susceptibility of mucous membranes would explain the differences which appear to exist between gonorrhœa and chancroid, as well as between mild and severe types of the same disease.[2]

Now as to the conditions which modify the results of the virus generated *de novo* in the human vagina. These are as follows:

[1] Independently of the existence of the living germ, attention may be called to the generally unappreciated fact that all poisons act upon the animal body in accordance with physiological laws. The physician speaks of the physiological effects of his drugs, but strange to say, never of the physiological effects of the *materies morbi* of disease. The effects of poisons vary; thus, opium gives a wide range of results, from nervous stimulation to fatal coma, aconite varies in its effects from moderate sedation to cardiac paresis, malarial poison (or germs) from slight depression of the vital functions to fatal coma, and so on, ad infinitum. Again, some poisons have a local as well as constitutional effect, the local changes which they produce being also purely physiological. The science of medicine will never become philosophical until these facts are generally both appreciated and applied.

[1] "The experiments of Pasteur on chicken cholera are well-known. In hope of diminishing the infective power of this organism, he grew it in oxygen for a long time, and found not only that it produced a modified disease, but that this attack in most cases protected the animal from the effect of the organisms in their most virulent state!"—British Medical Journal, December 31, 1881, p. 1062.

[2] Eklund claims to have found in the secretions of both gonorrhœa and chancroid the characteristics "gonococcus" claimed to have been discovered by Neisser. He also describes mycelial woven filaments, termed ediophyton dictyodes. This parasite he also claims to have seen in both diseases. So far as it goes, this is confirmatory of the corelation of gonorrhœa and chancroid.

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1st. It is obvious that much depends upon: *a*, the age of the decomposition; *b*, the degree of inflammation present; *c*, the frequency of coitus; *d*, the constitution and habits of the woman; *e*, the character of any semen or urethral discharges which may be deposited in the vagina; *f*, the degree of cleanliness of the woman.

2d. The amount and degree of virulency of the virus deposited upon the absorbent surface in another individual.

3d. The cleanliness, local and constitutional condition, habits and sexual hygiene of the recipient of the cultivated virus.

4th. Individual predisposition.

With reference to the latter point, Dr. Jordan Lloyd has made the following excellent remarks: "There can be no doubt that some individuals contract—and even develop—venereal disease much more readily than do others. There can be no doubt that all physicians, from the nature of their calling, must, during the course of each year, be exposed to infection of one kind and another many hundreds of times. I am not aware that physicians take any particular precautions in the way of protecting themselves from these influences. Immunity does not, in every case, depend upon their having already suffered from attacks of the various infectious diseases. How is it, then, that they so rarely become affected? It is because they have not the predisposition, whatever that word may mean; because their bodies do not present a suitable nidus for the growth and development of the germs of disease. Again, in a class of cases more closely allied, clinically and pathologically, to those under discussion, how often do we see among hospital officers men who are frequently developing crops of hospital furuncles on their hands and arms, others with constantly recurring sore throat, others with inflamed wounds and lymphatics from *post-mortem* abrasions, while at the same time and under precisely the same conditions there will be men who, year after year, remain free from all such troubles. Susceptibility of one class of individuals to certain poisonous influences, or insusceptibility of the other, must be the explanation. There is nothing more strange in it than in that of many of the well-known "idiosyncrasies;" for example, the poisonous effects of eggs and tobacco on certain persons."

This author further alludes to a certain class of persons who are familiar to every observant physician, as "suppuraters." This is the class of people in whom, as we well know, wounds are more likely to heal by granulation than by first intention. Lloyd speaks of such persons as follows: "These people, apparently of robust health and iron constitutions, frequently have boils; when their lymphatic glands inflame; and they often do, the process more often terminates in suppuration than resolution; trivial wounds in such people do not dry up at once, they heal by granulation. I believe these suppurators contract venreal diseases where ordinary mortals escape them."[1]

Under the head of local conditions, phimosis, paraphimosis, balanitis, posthitis, and herpes not only modify the course of chancroid, but indubitably act as predisposing causes.

As a consequence of the wide spread variation that exists in the conditions which I have given you, there may result from different inoculations of essentially the same products of decomposition different degrees of infection. Thus the disease acquired by exposure to such irritating material may be: 1st, a simple balanitis or balano-posthitis, or venereal vegetations; 2d, simple urethritis; 3d, a virulent urethritis; 4th, simple venereal ulcer indistinguishable from advanced herpes; 5th, classical chancroid. As you may imagine, I would find it difficult to show you just what variation in the development of the poison determined a gonorrhœa upon the one hand and a chancroid upon the other, but you will be perfectly safe in assuming that comparatively trifling differences in the circumstances of the development of the poison as well as the differences in the local and constitutional condition and idiosyncrasies of patients, are amply sufficient to account for the difference in results. We will lay theoretical considerations aside for the moment and consider some of the clinical facts bearing out the theory of the development of chancroid and gonorrhœa *de novo*, aad its corelation with other and simpler affections:

1st. It is found that the discharge from a virulent gonorrhœa, if confined by a tight prepuce, will cause quite severe inflammation and phimosis (*i. e.*, balano-posthitis). If not speedily relieved, excoriations and even ulcerations will result.

2d. The discharge from these lesions, as well as that of gonorrhœa, will oftentimes produce a pustule if auto-inoculated. It will generally produce some inflammation, and in experiments upon cachectic patients, I have known the tissues to break down in ulceration, which, I am free to say, appeared to me to be identical with some of the simpler cases of chancroid.

3d. The long-continued contact of these secretions with the mucous membrane often causes a crop of venereal warts. These frequently result from simple irritating secretions, *e. g.*, in pregnant women, and are an occasional complication of chancroid.

4th. Chancroid of the urethra is always attended by urethritis of greater or less severity.

5th. Gonorrhœa and chancroid are often associted in the same patient, either appearing at the same time or at such an interval that one may quite plausibly be due to infection by the secretion of the other.

6th. Both diseases are contracted from the same class of females, and often from the same woman. The higher class of prostitutes comparatively seldom convey either disease.

7th. I have myself examined women from whom both diseases have been contracted by different men at different times, and found them unclean, but at the same time free from both acute and chronic vaginitis and chancroid.

8th. Any of the urethral or genital lesions may be followed by suppurative bubo, differing chiefly in degree from virulent bubo. I have succeded in auto-inoculating pus from a bubo secondary to severe balanitis.

9th. It is always difficult to say where simple genital ulcer terminates and chancroid begins. The test of auto-inoculation is hardly fair, as it simply tests the degree of virulency of the ulcer.

10th. The natural tendency of chancroid is to lose its "specificity" in a short time, and by a reversion of type to assume the benign characteristics of a simple ulcer.

[1] Birmingham Medical Review, October, 1886.

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I have been asked why all cases of gonorrhœa do not present ulcerations if the poison be the same as that of chancroid, and why urethral chancroids do not destroy the entire urethra. Now let me repeat that I believe the poisons are similar in origin and kind, but different in degree. To the first question I would answer, because the virus is not so highly developed as that which produces chancroid, and because, moreover, the urethra is a different structure from the glans penis, and is being frequently flushed out by the urine. For that matter, instead of pronouncing a case chancroid of the urethra and complicating urethritis, why not term it a gonorrhœa with ulceration? Perhaps the former diagnosis is confounding the *propter* with the *post*. In answer to the second question, I will state that the reason for the non-extension of urethral chancroid is the same as for its non-extension when it occurs upon the external surface of the genitals. As the virus invades increasing areas of healthy tissue, it necessarily meets with a resistance proportionate to the inherent vitality of the cells of the healthy tissue, and as a consequence, unless the local conditions are extremely favorable to the development of noxious and irritating secretions, the activity of the virus becomes exhausted after a time. In addition to this fact, we have the circumstance that there is more or less inflammation attendant upon chancroid, and as a result we have an exudative barrier of greater or less extent thrown up about the lesion, which opposes its progress to a certain extent. If, however, the patient be uncleanly or unhealthy, or if he be possessed of an idiosyncrasy predisposing to phagedæna, there is little vitality in the normal cells to oppose the inroads of the chancroidal process, and so slight an exudative formation that rapid destruction of tissue is liable to occur. These latter points must be taken into consideration in our studies and treatment of chancroidal phagedæna and phagedenic bubo, as they will be of great assistance to us in actual practice.[1]

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Rational Therapeutics.

By Thos. Temple, M. D., Peoria.*

There have been more or less, in all ages, two systems of medical treatment; these are the Empirical and the Rational. The first is founded on simple induction. By accident or by experience it is found that a certain medicine is of use in the treatment of a certain disorder; it is henceforth administered in that disorder, and on a number of such separate data, an empirical system is constructed. It naturally requires for its elaboration a comparatively small degree of knowledge and probably less brains. Now, this observation of facts is necessary, but something more is required; we must not only have a large number of facts, but must draw correct inferences from a comparison of these facts, and our treatment will become rational, when on the one hand, from an accurate knowledge of the symptoms of all diseases, we are better able to meet each by its appropriate remedy; and on the other hand, by a general acquaintance of the action of the remedy, we are fitted to wield it with more skill and effect.

If medicine is a rational science, two things are essentially needed. The first is the right understanding of the symptoms and causes of the disease. The second, a correct knowledge of the action of medicines. The physiological action of a medicine in a healthy system is entirely different from the therapeutic action of a medicine in a system that is diseased, for the *conditions* are different and hence the *effects* are different. Yet the homœopathist uses his provings of a medicine (as he calls it) on a healthy subject, whether he uses the mother tinctures for this or his attenuated dilutions, not to speak of the fallacy of the foundation of the system, viz.: "similia similibus curanter." The therapeutics are decidedly at fault, for in the dilutions we cannot comprehend any appreciable medicine given, and what is incomprehensible in the action of medicines looks very much like nonsense. Now this is the mode of dilution as practiced by homœopaths: take 90 drops of pure alcohol and add 10 drops of mother tincture of any known drug, and be sure and shake well to add to its potency, and you have dilution No. 1. Then take 90 drops of alcohol and add 10 drops of No. 1, shake well as before, and you have dilution No. 2. Then take 90 drops of alcohol and 10 drops of No. 2, shake as usual, and you have dilution No. 3, and so on in this proportion at least to the 100th dilution. Now, if you can comprehend how much real mother tincture there is in each drop of the 10th dilution, with or without a microscope, your comprehension is much clearer than mine.

There is a new discovery of late years, that in certain diseases there are certain microbes found of different shapes and sizes, as, for instance, in the sputa of phthisis pulmonalis, the dejections of cholera and other complaints. These different microbes, all characteristic of the particular disease it represents, but, alas, whether it is the *cause* or only the *effect* of the particular disease it represents has not been determined, but if in time it should turn out to be the cause and the microbe discovered in time, then a specific course of medication could be applied to *kill* the microbe and there would be an end of the disease, for remove the cause and the effect ceases. This would be an easy method of the application of therapeutics and would at once and forever untie the Gordian knot. Still it would only be a one-idea plan, and in the past history of medicine, such plans based on one idea have signally failed or been displaced by more enlightened methods of therapeutics.

The Hippocratic maxim was "contraries are the remedies of contraries." On this principle we give purgatives in constipation, opium in diarrhœa, sedatives to relieve pain, sudorifics to relieve dryness of skin, etc. But the rule becomes inapplicable when the disease is of a complicated or compound nature, but this maxim was a step in the right direction. The humoral theory of Sydenham, and the threefold action of Broussais, were further advances. But the general explanation of the action of medicines in disease or the modus operandi in the cure of diseases, is to say "that they operate by various counteractions." This is the present theory held by the practitioners of the

[1] In his recent Lettsomian lectures, Mr. Jonathan Hutchinson expresses the opinion that chancroid usually occurs in persons whose systems have been impressed by syphilis at some period more or less remote. In other words, it is a mild manifestation of syphilis in a person who has already been syphilized. This theory appears to be as untenable as it is striking.

* Read before the Military Tract Association.

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regular school of medicine of the present day. In order to get the effect of a medicine upon the system it must first be introduced into the fluids of the body either through the action of the stomach upon the medicine, by hypodermic injection through the skin, or in the case of some remedies applied as oleates to the epidermis, or by absorption through the mucous membranes, which is well exemplified by the action of atropia, etc., upon the nerves of the eye when instilled under the lids, causing dilation of the pupils. The rectum and vagina seem to be capable not only of absorbing medicines, but likewise to a certain extent aliments also to sustain the system when the stomach is not available for that purpose. The circulation of the blood is sufficiently rapid to carry the absorbed medicine or aliment to the particular organ or organs upon which it is intended to act, by the rule of local access.

We must have some sound theory of the cause of the different complaints of the human system in order to apply the rational remedies for that particular complaint. If there is any cloudiness of the mind in our diagnosis, or therapeutics of disease, we lack just so much of the rationality of the cure. For what we cannot comprehend fully is so far irrational. But if you cannot remove the cause as in many complaints, you have to rationally remedy the effects, as for instance in typhoid fever and many zymotic diseases. In those cases probably the curative principle is found frequently in dietetics rationally applied, in addition to the best of hygiene.

But now for a few cautions, we like to see the science of medicine advancing, and are willing to help all we possibly can in our humble capacity. But, gentlemen, I hope none of you are carried away by high sounding names or fashionble methods of treatment. Remember, according to your capacity and opportunity, you are men with brains, and be enthusiastic to forward your chosen profession. And remember likewise that the men you put all confidence in as leaders and lights are only men, like yourselves, with larger capacities and opportunities, yet every physician in regular practice, may add his mite to the accumulating evidence of the general stock of knowledge, based upon the rational application of therapeutics, how humble soever his situation in the profession may be. Now as to ticklish or powerful remedies in small doses (and remember I am a country practitioner), and not often having the advantage of skilled nurses, but only common country people to administer medicine, who think there is magic in it, and if given in the doses and hours directed by the physician, is all that is needed, without once looking for the effect of the remedy. This puts me in mind of the case of an Irishman that I was treating for rheumatic cardiac disease with digitalis in ten drop doses of the tincture every three hours, which made the breathing easier and reduced the dropsy of the legs and abdomen, so his friends thought that if a little did good, more would do more good, so they increased the dose, how much I am not prepared to say, but the consequence was he died of an overdose of digitalis. Another case of sthenic pneumonia I left some tincture of veratrum viride to be given in doses of two to four drops every two hours till the pulse was reduced to 75 or 80 beats per minute; went to see my patient next day and found him violently retching and vomiting with a pulse of forty-five to the minute. I mention those cases in order to say that we cannot be too particular in giving directions to the friends of our patients, who are acting as nurses when we are using the potent remedies in small doses. I am not much in favor of the use of the bichloride of mercury in solution to be applied to mucous membranes continuously, especially injections of the same into the vagina and womb after accouchment. Dr. Henry J. Garrigues, obstetric surgeon to the New York Maternity Hospital, in the *American Journal of the Medical Sciences* for August, 1889, once a great advocate of bichloride solution, for sepsis in puerperal cases, and thought by its use to reduce the mortality to one-fourth of one per cent, he likewise published "A Practical Guide on Antiseptic, Midwifery in Hospital and Private Practice," but now asks the question "Is it safe?"

He collects and reports twenty-two cases of *death* from this practice, having all the symptoms of mercurial poisoning, and is now convinced that creolin, a comparatively non-poisonous substance, is much safer, and equally as effective as the mercuric bichloride. As to antisepticism in surgical practice, I agree, but think that perfect cleanliness of the wounds, hands, and instruments, is one of our best antiseptics; but people do not take kindly to plain water, and so we have to make it look and smell of something else. I think antiseptics in surgery an excellent thing. One more caution. Forty years ago the prescriptions of physicians frequently contained all the way from 10 to 30 different ingredients one of which might come under the caption that a chance shot might kill the d—l. It is not very likely in any of these ponderous prescriptions there would be ten ingredients chemically compatible, or that the whole was not radically changed. You see the prescription writing of the present day is greatly improved, and the fewer ingredients, and the more compatibility of even the few, and the elegance of the same, so that shake-labels are not as frequently attached to bottles as in former days. But my paper is getting too long and tedious. I intend, if my life is spared, in the not distant future to treat of the therapeutic action of some remedies which are well known and of great value to the medical profession, but have, to a great extent, been discarded, *because* they have never fully understood their application.

Gentlemen: The subject I have chosen for this paper is "The Tendency of the Times from a Medical Standpoint."

That we are living in a wonderful age all will admit; wonderful in every respect, in every avenue of life. When we think of the advancement that has been made in all the branches of science in the past fifty years, we wonder whether or not the future can possibly make discoveries of any note, or unravel any mysteries not already solved. No doubt our forefathers thought the same way about these questions we are doing to-day, yet it seems to me, there was not the same amount of energy, push, and indefatigable perseverance we find at the present time. As an inevitable result of this excessive muscular and mental strain, an excited, overtaxed and irritable brain and nervous system follows, and with them all the exciting causes and predisposing tendencies to the long list

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of diseases that follow in their wake. Entering largely into the main cause, or modifying influences of all the diseases we are now called upon to treat, and the present indications are, unless, the brakes are applied to this fast retrograding train, and that before long no one can depict the dire calamity that is sure to overtake us as a people. Do not think I am one inclined to take a gloomy view of the surroundings, for I am not, but "a wise man foreseeth the evil and hideth himself." Muscular waste as a result of malnutrition is soon restored. Sleeplessness, as a result of overfatigue, from excessive muscular exertion, is only temporary. But how different is that peculiar muscular waste and the insomnia caused by true nervous prostration. What is or what can be more sorrowful to look upon than the haggard, worn, dejected countenance of one suffering from the latter cause. Indications of softening of the brain or nerve centres perhaps have already made their appearance and without any permanent hope of recovery it advances step by step, slowly but surely, until it either ends in partial mental imbecility or insanity and finally death, a welcome messenger, closes the fearful scene. Is not the tendency of the times, gentlemen, calculated to produce the effects I have mentioned?

I believe when God made man and pronounced him good, he was just as good as he could be, and be consistent with the formation of the other manufactured articles. I think when God formed woman she was inferior to man in some respects, and superior in others. In short, she was just as good as she could be, considering it took part of man to start her, and I have sometimes wondered whether or not it was the part of man ingrafted into her being that tempted her to eat of the forbidden fruit. Then I have thought that could not have been the intention, for had it been, would it not have been taken from some other part of the body rather than the rib. But be that as it may, she was formed very good, in fact, so good that no one, as yet, has been able to get up an improvement upon her. In olden times her organs of generation were also good. In those days she used them as the Creator intended them to be used. She followed Nature's laws inviolate, and as a reward, a goodly number, ranging from five to fifteen bright, happy, intelligent, healthful children, grew up to call her blessed. Of course man had his part to perform in this interesting and pleasant physiological result, and this you must remember, gentlemen, was before the days of Damiana, but I will speak of man further on. In those days it was an exception to the rule to find a diseased uterus. Now it is the opposite, as you medical gentlemen all very well know. Now they are tinkered with so incessantly that those who are so fortunate as to be born normal, are soon made abnormal, so at the present time it is really refreshing to find one in perfect situ with healthy surroundings. Record breaking is the spirit of the age. Nothing short of that will attract attention and the woman who can furnish the most ulcerations, the greatest number of displacements, and the most complete procidentia is the heroine of the hour. The old fashioned uterus that received its precious, immortal charge commenced caring for it in the way God intended it should and with each physiological demand, so beautifully and delicately made, came the needed support. Who is there, who has made a study of this intricately delicately woven net-work, protecting the sensitive little gem within the casket, without being forced to admire the physiology of our formation, and is it to be wondered at that the uterus of years ago should have felt a genuine pride in being the keeper of such a charge? How different the uterus to-day.

If, perchance, in spite of all preventives known under heaven or among men, such a disastrous thing as pregnancy should take place, proceedings as forcible detainer is at once commenced and any measure, no matter how unlawful it may be, is persistently carried out, and the result, as you medical gentlemen well know, ends, if not in death to the mother, in leaving her a poor, broken down physical and mental wreck with no pleasure in the present and no hope in the future. Why is this disastrous step taken? Simply because it is not fashionable to raise families. It prevents the mother from going into society so much. The abdominal muscles enlarge and finally become flabby, thus destroying the symmetry of her form somewhat. Poor, deluded mortals, staining their hands with the blood of their innocent offspring; making murderers of themselves in the sight of God and man; burying all maternal instincts and lowering themselves below the level of the brutes. If, perchance, all means of prevention have failed, and pregnancy does take place, and proceeds the allotted time, she gives birth to one who has been an unwelcome charge from its conception, and all the mental depressions and perversions possible for the mother to transmit is found in the poor unfortunate offspring. The Catholic church, God bless her! is the only one who has stood firm in its opposition to this evil, and is doing more against the committing of this, America's greatest crime, than all others combined. I saw what was supposed to be an authentic statement not long ago that our families are averaging one and a fraction and that the foreign families in this country are averaging five and a fraction. Be that as it may, we know it to be an undisputed fact, that the foreign element is fast upon the increase and the time is not far distant when it will be greatly in the majority, and ordinary wisdom should teach us the fact that unless infanticide is less frequent in this country, we will soon lose our prestige as a nation. Is not the tendency of the times to an increase in this most hideous and revolting crime, and as a profession are we not responsible for part of these offenses? Is it not high time for us to stop and consider the terrible channel into which we have drifted? There is not a medical gentleman present to-day but feels the urgent necessity of a change but also feels the solemnity of the responsibility resting upon us as a profession.

There was a time when the Indians were the acknowledged leaders in that old time noted disease called syphilis. But the time has surely come for them to step down and out, and while they are signing away their rights to lands, they should also admit our superiority in contracting this loathsome disease. No doubt many of you, the same as I have done, have seen cases of syphilis in boys in their teens, and not cases of the boys' teeth being put on edge from the parents eating sour grapes, either. The boys had been at the grapes themselves. I think it is an undisputed fact, borne out by the observation of every physician, that this disease that knows no limit in its severity; no boundary in its ravages; this subtle, deceptive monster, found in the homes of the

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innocent as well as the guilty; in the palace and the hovel; in the cradle and in every stage of life to senile dotage; this transmissible blight upon all that is pure and lovely; this positive, purulent poison, irrespective of its surroundings; this ever-present influence, modifying the course and termination of other diseases, is greatly upon the increase. This disease should be a bar to marriage, and some legal steps should be taken if for no other reason than to protect the innocent. The premature decay, self-abuse, and all the deplorable conditions they produce, speak more forcibly than it is possible for me to write or speak. The nerve tonics may relieve these conditions for a time, but, as we all know, the improvement must only be of short duration. It is to avoid the necessity of them that we should most desire. Our laws can be broken and the offender not punished unless caught. Not so with nature's laws. No one can escape, and not until nature's laws are kept inviolate can we hope for a satisfactory reformation. What must we expect next of that wonderful record breaker, Brown-Séquard? If his grounds are well taken and the results obtained are but the logical conclusions we would look for, it seems to me we are on the eve of a general transformation and upturning of all the olden landmarks and we left to wonder in amazement at our ignorance, and surprised that we should have remained in that condition so long.

If what we read is true—if what he and his followers claim can be done—what is to hinder one taking a hypodermic syringe and a bottle of spermatic fluid (*be sure and have it fresh*) and start a nation of our own, or make whatever change thought best in the one we have. What a field for thought and experimenting that would open up; what blending of all the desired qualifications could then be brought about by studying the habits and peculiarities of each. How easy it would be to add to or take from, as the case demanded. This it seems to me would be as great a victory for science as the case of the man who was disemboweled and the bowels of the sheep substituted; ending in the man's recovery, and giving birth to a pair of lambs in the spring. The former modes and theories would then be done away with and we start in on a new era. My own opinion is the one will be successful just as soon as the other. Had it not been appointed unto all men to die; did we never get old; did not age produce changes in our organism governed by laws as unchangeable and immutable as God himself, then we might view this differently. But so long as these laws remain, so long will men get old and die—elixir or no elixir. Had one of less renown proclaimed the wonderful discovery it would have been hooted at; just as I presume some will make light of the suggestion I have made. I do not suppose I will find any one who thinks enough of my proposition to even experiment with it.

I think my practice is the safer of the two, for a good many deaths have been reported from Séquard's elixir on account of its not being fresh. Recommendations of new medicines from noted practitioners are calculated to mislead. Claims are made for them that do not exist, and the giver and the taker of them are both disappointed. For instance, the list of remedies intended for the stomach and recommended in the strongest terms by eminent men, would give one to infer that all the stomach was to do was to receive the substance and the digestive fluid or substance would be introduced afterward. Now I do not wish to be misunderstood about this matter, for the same tendency applies to the other organs as well as to the stomach.

The point I wish to make is this: it gets one into a routine way of prescribing. It is apt to check investigation; you lose your own individuality; you give another one's formula rather than your own; you lose sight of cause altogether and become a medical dwarf. I do not go so far as to say none of these formulas are good, far from it, but I do say the tendency is to the use of them altogether too promiscuously.

They are inclined to make us uncertain and vacillating in our treatment and give us in return unsatisfactory results. The object of this paper is not intended to find fault and criticise, but it is intended to show to what extremes many will go to in order to carry their pet point. For instance, in peritonitis, those who give opiates think it a terrible practice to give saline cathartics, while upon the other hand, the adherents to the salines think it murderous to give opiates. Now, gentlemen, I am free to admit that I give both, so I presume I would be called a medical mugwump. If I have a case where I think any contents within the alimentary canal is causing the disturbance, I remove it with a saline cathartic. I then give opiates to not only relieve pain, but also to stop all peristaltic action. I have always found it conducive to recovery to put an inflamed part in perfect rest and keep it so until the inflammation has subsided; irritated surfaces rubbing against each other will never aid in recovery. There is a growing tendency to misname diseases and in that way do injustice to other members of the profession and mislead the friends. For instance, a few years ago I met a physician in council, somewhat noted for finding pathological conditions that no one else ever heard of. He was sitting by the bedside of a patient suffering from hysteria, as her countenance plainly indicated; after looking over the case we retired to consult. I asked him what he thought the trouble was. Well, he said he was very positive we had a case of ossification of the falx cerebri. I said to him I had known the patient a good many years and that I had never heard of her being accused of being a jumping animal before; at the same time I told him I had always supposed the bony partition between the hemispheres of the brain was only to be found in jumping animals.

Of all the trying places of a busy physician, it seems to me there is none that so much taxes his better judgment, than at the bedside of a protracted lingering labor, nothing needed but time, the parts, the presentation, in short everything normal, the patient becomes impatient, the friends implore interference, other patients needing immediate attention, yet the case lingers, what is to be done? Your past experience says wait, your better judgement says wait: but this does not satisfy patient or friends. Now is there not a tendency to yield to their request? and are there not many lacerations of the os and perineum as the result, are not instruments and ergot used frequently when contra-indicated? I will say this, I have my first case to have of laceration at child-birth. I don't say this to be egotistical for my next case may be one, but I am convinced in my own mind that I have saved a great many accidents from happening in

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my own and other physicians' practice, by standing firm in what I knew to be right, and being conservative in the use of instruments.

Doctors, like bumblebees, are largest when first hatched. With some the egg was pipped a little to previous, while with others it would have been better had it not been pipped at all. It is very fortunate to know some things with a constant desire to know more. It is exceedingly unfortunate to think you know it all, counsel and advice given by those of ripe experience coupled with careful thorough observation should be received as apples of gold. The shyster who peddles his profession and sells it for what he can get, the same as the huxster woman does her pies, is contemptible beyond description, and is always overpaid. If the same effort that is made to pull down and injure the reputation of others were directed to the better qualification and improvement of ourselves, it would be far better for all concerned. Professional ethics as taught is elevating. Professional ethics as practiced by many, is disgracefully degrading. The lack of love for the profession, a singleness of purpose in performing the arduous work for the good of others, and thus ennobling not only ourselves, but the profession we represent, is causing many sad wrecks by the wayside. If we diagnose our own cases correctly, it will not give time to pass opinions in regard to other physician's patients. It has been well said of those who appear in public, either as writers or speakers, that it takes more good sense to know when to stop than it does to know what to say and when to say it.

I find it will be impossible for me to go over the field I had maped out without making this paper too long, yet before closing I cannot refrain from touching upon a few more points: Any new contribution or experiment tending to prove the value of any strictly scientific inquiry whose object is for the good of society, should be hailed with emphatic delight; yet in our eagerness for the new we should not forget the virtues of the old; fundamental principles in our profession were well laid — have been weighed in the balance and found worthy — medicines whose reputed efficacy have stood through all kinds of ordeals still stand the test; their merits increasing upon a more thorough knowledge of them; years add luster to the teachings of the masters of the past. Let us as a profession be settled in our convictions and opinions, avoiding ostentation and vacillation, for they are the breeders of contempt and uncertainty. Receive and be benefited by all the good in the new, but cleave tenaciously to what has proven to be good in the old, ever remembering our profession is not only the highest, the noblest, but the most Christlike of any known to man; and with respect for the memories of the noted ones in the past, let us show to the world the keepers are worthy of the charge. Then let the tendency of the times be what it may, we may rest assured with honesty and proficiency inscribed upon our banners it will never be trailed in the dust.

Creosote in the Treatment of Consumption.

Read before the Military Post Medical Society of Illinois, Oct. 15, 1889.

H. C. Hopper, M. D., Galesburg, Ill.

The treatment of consumption by the internal medication of creosote was first practiced in the year 1830, by Reichenbach of Blansko, in Morovia, the same year in which it was discovered. But after obtaining many excellent results, and like many other valuable remedies, it gradually fell into disuse until oblivion had claimed it for many years, when it was again called into the medical armamentarium by the researches of Drs. Bonshard and Gimbert, in the year of 1877. They used it extensively and reported 90 cases treated in this way of which 54 were very materially benefited, the others seemingly deriving no benefit whatever.

Since then at different times it has had its enthusiasts both in this and the old country, among whom have been some of our most eminent authorities and men eminently able to judge whether there be any virtues in the drug or not.

While there are many flattering reports of the success of this treatment, there is still enough in the same reports of a negative or delaterious character to suggest that it is not yet the alone desideratum in the treatment of phthisis, for while many cases have been helped, and beyond a doubt many incipient and perhaps some advanced cases have been cured, yet there are many cases reported where the drug could not be borne at all and others where, when borne, did no good whatsoever.

As there is *no specific cure* for consumption then *that* which even suggests *relief* is certainly worthy of our best endeavors to thoroughly investigate, and if there be any virtues in it, let suffering humanity have the benefit of it as soon as possible.

Dr. Beverely Robinson, of New York, spoke highly in favor of the drug, giving his observation in the treatment with creosote, covering a period of thirty years.

He not only believes that in many cases it will relieve the fever and check the development of bacilli, but it acts "locally on the pulmonary lesion," and has the effect of promoting the fibrous tissue around an area of consolidated or broken-down lung tissue. In this way a broken-down lung-place is surrounded by a wall of healthy tissue, while the cheesy mass is gradually absorbed or the contents of cavities are softened down and expectorated.

Such results have been accomplished and verified by unquestionable authority. In my own personal experience I have not had such signal results, but at the same time I believe the drug is more or less endowed with these attributes from the fact that I have seen creosote produce a most marvelous effect in relieving symptoms incident to consumption that I have never seen any other drug accomplish, and an effect very gracious if not all that could be wished for. In no case could this be more plainly exemplified than in that of an out-of-town patient I was called to see in the early spring of the present year, whom I found suffering intensely in the last stages of consumption. She was frantic with fever and exhaustion. Her temperature was 106°, while her pulse could not be counted. The attending physician allowed her twenty-four hours more to live, and indeed she would scarcely have lived that long had not partial relief come to her. Recovery was out of the question, as she could not have lived on the small remaining portion of her lungs if they could have been healed. Her flesh like her lungs was equally consumed even to a degree not often seen even in a consumptive, while added to this was an intensely irritable state of the stomach and bowels.

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She could not eat anything but what in a little while it would pass off her bowels.

I immediately put her on the creosote treatment of whiskey, glycerine and creosote and, greatly to the surprise of every one, in a very few days she was very much improved. The improvement commenced from the first dose almost, and continued gradually until her pulse became stronger and the fever entirely subsiding and above all the harassing cough so improved that she could sleep quite awhile at a time. In every way she improved for 2 months and made up her mind she was going to get well, while before she was conscious that she would not live long.

Her death occurred suddenly from collapse.

In this case, while the whiskey undoubtedly strengthened the heart beat, and bouyed up her vital energy, previously without the creosote she could not bear it in any quantity. The creosote seemed to have a specific action on the diseased tissues not only relieving the internal fever but the terrible irritability.

To this woman I am certain it made the dying agonies of consumption less terrible if not indeed one of peace.

Not long after seeing this patient I was called one midnight to see a young woman suffering severely from a hemorrhage of the lungs with the usual circumscribed inflammation attending. She was of a delicate, gelatinous constitution rendering her recovery one of some doubt. After the hemorrhage and more important symptoms subsided, I placed her on the creosote treatment with the happiest results. The soreness in the chest gradually left. The hectic flush disappeared, the cough which she had had for many months subsided and she commenced to gain flesh till six months had passed when she declared she was quite herself again and that she had never had any medicine to do her so much good.

While the whiskey and glycerine may have acted as food and tonic I am satisfied it was the creosote that cured up her lung trouble and catarrh.

I am further made to believe it was owing to the creosote, as I had previously prescribed almost everything applicable to such diseases, but with no such results as I accomplished with it.

In another case, advanced to the 2d stage of consumption, I gave it steadily for several months. The case was one very pronounced and with a very strong hereditary tendency. In this incident, by carefully watching, I could discover no benefit to arrive from it, nor evil either, until increased dose caused gastric and intestinal disturbance, when it had to be stopped. But the remarkable feature about this patient was that she passed through all the stages of phthisis, finally dying without having had any pain. This is something I have never seen before and which I attribute to the modifying effects of the creosote so thoroughly given.

My experience leads me to believe that the creosote has a decided influence also over the nervous system, allaying the nervous irritability always incident to this class of cases. To two other patients, much younger in years than the preceding, I gave the same treatment, but without result one way or the other, so that the treatment was discontinued.

From these cases it will be seen that it's not to be relied upon in all cases, and only by trial can it be ascertained what patient it will benefit. Yet, as it has unquestionable virtues, it is worthy of trial till by experience we can be able to tell just wherein its virtue lies and prescribe accordingly.

The drug to be relied upon should be pure beechwood creosote and from a reliable manufacture, viz.: English or German, but the English is preferred.

I prescribe it in whiskey and glycerine, ⅓ and ½ to 1 minim creosote to the draught or tablespoonful dose, every two hours while awake. If the whiskey be objectionable, as it sometimes is, then use glycerine diluted with water.

Herein constitutes my experience with the treatment of phthisis with creosote, and if it suffices to incite the profession to an extended investigation of this important drug, then the ends of this paper have been fulfilled and its mission completed, for no doubt, much more will be accomplished for suffering humanity than is even suggested herein.

Society Proceedings.

Chicago Medical Society.

A. E. Hoadley, M. D. ..... *President.*
Junius C. Hoag, M. D. ..... *Secretary.*
F. A. Holland ..... *Stenographer.*

Chicago, Sept. 15, 1890.

Dr. Henry T. Byford exhibited a uterine scarificator and said: This is a uterine scarificator with three cutting edges instead of two. The reason for this is that in a majority of cases in which we use a scarificator we do it for the purpose of evacuating cysts. If we evacuate these cysts by a simple incision they are likely to close up almost immediately by first intention. With a three-cornered opening made by this point, closure does not take place as readily, and a track is left through which discharge may occur, or iodine may be applied. I find that it acts very nicely. As the length of the incisions is inconsiderable, hemorrhage is quite slight comparatively, and can be readily checked.

J. B. Greene, M. D., of Mishawaka, Ind., read a *Report of Two Cases of Uterine Fibroid and One of Stricture of the Rectum. Treated by Electrolysis and Surgically.*

Anything that I may offer will not, I am sure, add to the knowledge already possessed in regard to the causes, symptoms or effects of fibroid tumors of the uterus. As I have been experimenting somewhat during the past few years with electrolysis, and during the past year quite extensively with the Apostoli method, I thought that the details of two cases of fibroid of the uterus and one of stricture of the rectum, treated by electrolysis, and surgically might be of interest.

Before describing the cases I will say that the evidence for and against electrolysis as a resolvent is about equal. Of course we do not know the kind of battery used by those reporting failures. A report stating "I applied —— cells" is worthless. The current for electrolysis *must* be the galvanic. The amount used cannot be gauged by number of cells, but by a millimeter, and the method of application must be one scientifically applied.

Many cases treated by careful, honest and (outside of electricity) scientific men, have been pro-

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nounced not benefited or injured by their electrolytic (?) treatment. Many of those cases are treated after electrical failure by other surgeons, and the electricity applied, both as regards quality, quantity, force and time, scientifically, and a happy recovery followed. Do not believe that a four, five or six cell galvanic battery can give you a current of sufficient electro-motor force, of sufficient quantity, or intensity to produce chemical (electrolytic) changes in tissue of the resistance of fibroids, or strictures. Above all do not believe that the Faradic current will do the same that a galvanic current will do.

Perhaps there is such a thing as luck, if so, I must be one of the lucky ones, for in the treatment of many cases of fibroids, strictures, goiters, hypertrophies, etc., I can now call to mind a complete failure in but a single case, and that was a case of urethral stricture treated (?) on the top of the Rocky Mountains, with an improvised galvanic battery of uncertain power, with no meter, and using an improvised electrode.

Case—April 11th, 1890, Dr. I. H. Darr, of Morley, Macosta county, Mich., sent Mrs. B. to me, aged 46 years, multiparous. At that time she was suffering with intersticial fibroids of the uterus, in fact the whole uterus seemed an enormous fibroid mass. The anterior wall was easily outlined as a tumorous mass extending above the umbilicus, to the right was a pediculated tumor as large as a cocoanut freely movable, hard and apparently fibrous. I could not tell from where the pedicle grew, but believed from the fundus. Examination per rectum revealed a mass in the posterior uterine wall that almost completely filled the pelvis. Defecation was difficult because of the pressure of the mass upon the rectum. Micturition could not be accomplished excepting when patient was in the knee chest position. The catheter showed an urethra fully four inches long, and an instrument with a curve as great as in the male catheter had to be employed to enter the bladder—a soft catheter was useless, as pressure by the "mass" completely obliterated the channel.

For two years she had been the subject of repeated and profuse hæmorrhages. Flooding was the first symptom she noticed of her trouble. For more than a year she had suffered from dyspeptic symptoms, at times vomiting severely. She also had frequent, but as regards periodicity irregular, attacks of what had been diagnosed as chills, followed by profuse sweating and no fever. I was satisfied that the chills were rigors, caused by a formation of pus. Still I determined to try electrolysis before resorting to surgical measures.

The first application April 14, 1890, was of forty-two milliamperes. Negative pole attached to a carbon vaginal electrode; positive to the clay abdominal electrode. I used a vaginal electrode because the os could not be reached either digitally or per speculum. The only effect I could discover from this treatment was an apparent increase in strength. Four days after, April 18, I applied the electrolysis in the same manner, using seventy-five milliamperes. There was again a tonic effect; the feeling as of a heavy weight in the pelvis disappeared.

April 27. Patient called my attention to the fact that the pediculated tumor had nearly disappeared; that the band of her skirts were fully three inches too large for her; that she could micturate by getting on her knees and leaning only slightly forward; and that defecation was comparatively easy. Examination showed the os in nearly normal position. That night she was attacked with profuse flooding. I then introduced into the uterine cavity one of Massey's prepared steel bulbs, attached to the positive pole of the battery; negative to clay electrode over the abdomen, and applied 100 milliamperes for ten minutes. The flooding ceased within six hours, but was followed by a rigor. While I was somewhat worried by the rigor on account of its severity and following so closely on the cessation of the flooding, I did not believe it the result of the treatment, but was stronger in my belief that pus was hidden somewhere.

The next day, April 28, the patient showed the usual improvement that had followed each treatment, and during the following week her condition was one to inspire the greatest hope. At the end of the week the decrease in the size of the growth was remarkable, the lateral walls of the uterus that could be felt through the abdomen was no longer smooth, but nodulated, the pediculated tumor had entirely disappeared, the uretha was nearly normal in length and position, micturation was accomplished with no difficulty, excepting that a little longer time was required. The knee and forward position had been abandoned. The rectum could be examined with very little pain, its canal was smaller than normal, but defecation was not painful or difficult.

I felt that the time had now come to be aggressive, and May 5 I applied negative interuterine, positive on abdomen, 375 milliamperes. The patient complained of no particular or severe pain, but remained in bed for six hours after the treatment. During the ensuing week she showed continued improvement in everything excepting that the rigors continued, as they had done all through the weeks she had been under my care, they came no oftener, and apparently with no increased severity, and I began to hope that the pus was in the Fallopian tube and would soon discharge itself per os. Sunday, May 11, the patient took a long ride in the country. Upon her return she expressed herself as feeling somewhat fatigued but otherwise no worse. May 13 I prepared to give another treatment, but suddenly—without the least warning the patient was seized with a rigor, the most severe she had ever had. I immediately decided to anæsthetize her, and if possible, find and evacuate the pus. Accordingly, with the assistance of Drs. Van Pelt and Thorp, with Dr. Butterworth in charge of the anæsthetic, I began my exploration. With a large aspirating needle I punctured the anterior tumor through the anterior uterine walls, but got no pus. I then aspirated the posterior tumor through the cul-de-sac of Douglas, and with my Allen's pump evacuated the tumor of about a pint of fœted pus. I then decided to forego further surgical measures until I was confident that they were required.

The patient rallied well from the anæsthetic. For three weeks she appeared to improve. The discharge of pus through the openings was free but not profuse. (I had enlarged the openings made by the needle, and introduced rubber drainage tubes.) Twice per day I washed out the cavities with dilute peroxide hydrogen. The tumors had all apparently disappeared excepting the one in the anterior uterine wall; that was about the size—judging by examination through the abdominal walls, of the pediculated tumor mentioned in the beginning—hard and smooth. The patient had a good appetite, bowels moved regularly and

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normally, urine passed freely. No rigors, no nausea, no sweating. I decided to soon again apply the current. How little we know of the hidden workings of Nature. How soon my castle was razed. Suddenly the fire again broke out. The rigors returned with greater force and frequency, and my patient began to fail with great rapidity. I almost gave up hope. After two days from the return of the rigors, she was attacked in the night by the most severe chill I had ever, in nearly a quarter of a century of practice, seen. I at once decided that as soon as the daylight came, to make an exploratory incision, and to then meet the indications presented, feeling certain, however, that hysterectomy was the only thing to be done.

At 8 o'clock the next morning, June 8, the patient was anæsthetized by Dr. Camelon, and with the assistance of Drs. Turner, Miller and Thorp, I began the operation. I made a long incision through the skin in the median line of the abdomen, going directly to the linea alba. I caught the few bleeding points with the hæmostatic forceps, and rapidly passed down to the peritoneum. Beneath it I could see the tumor, but, strange to say, there was no peritoneal adhesion. I then with my scissors laid open the peritoneum, catching it at intervals on either side with T-forceps. The tumor did not "come up" into the wound as is usual in such cases, but lay as if held down. Examination showed it to be a true suppurating fibroid, almost ready to burst.

I plunged in my aspirating needle, but could with my pump attached get not more than an ounce of pus. I then passed my hand back of the tumor, raised it as high as I could, had my assistants press the parietes as close around it as possible, then removing my hand I packed a soft towel around the tumor close to the abdomen, and laid the cyst open. It contained fully a quart of pus and caseous matter; —because of the latter I had been unable to aspirate. After emptying the tumor I again introduced my hand into the peritoneal cavity, and in attempting to raise the fundus, I ruptured a posterior tumor, one that I had not been able to discover by any previous examination. The amount of pus discharged into the abdominal cavity it is impossible to estimate; but the quantity was great, and the odor most offensive. By this time the patient was very weak; sweat as cold and clammy as the death sweat broke out; the pulse began to fail, and my patient was on the brink of the river Death. Dr. Thorp, by my direction, immediately began the hypodermic injection of whisky, and I continued my exploration, knowing that what was done must be done quickly, and feeling that every minute of time lost in waiting for an improvement in her condition was criminal. I traced the posterior tumor to the stomach and liver, broke its adhesions to those organs and the intestines. The adhesion to the liver was of a surface at least three inches in diameter. The liver surface was rough, granular and friable. I immediately, with my dull spoon curette, removed all of the friable liver tissue. I then decided to hysterectomize, but as I traced the tumor lower I found the adhesions denser, and finally found an adhesion to the abdominal aorta; I feared to break that adhesion. I then passed my hand into the right then the left pelvis. The ovaries were granular, and degenerated to such an extent that I picked them off as easily as I could pick an over-ripe pear from its stem, and without a drop of hemorrhage. I cut off as much of the tumor tissue as possible and then passed a drainage into the rectum and another into the vagina through the cul-de-sac.

I then freely and thoroughly irrigated the abdominal cavity. What was I to do with the anterior tumor? To amputate it would leave a surface to suppurate; to return it to the cavity was not to be thought of. I finally drew it as far through the wound as I could; then with my forceps I drew the peritoneum well up and around it; then with interrupted silk sutures, I stitched it to the peritoneum and muscles. After fastening the tumor in the wound, I stitched the peritoneum together with interrupted silk sutures, and followed in like manner with the muscles, passing each muscle suture through the loop of the peritoneal suture immediately below it, following with sutures in the skin, introduced in like manner. I had fitted a large curved glass drainage tube well into the peritoneal cavity, passing it down and near to the spot of adhesion on the liver. With a large curved trocar and canula I went through the tumor (at the bottom of the cyst) into the uterine cavity. I withdrew my trocar, passed a rubber drainage tube into the canula and then withdrew the canula, thus one end of the tube emptied into the vagina through the os; the other end was open on the abdominal surface. Iodoform was then freely applied, carbolated cotton and gauze placed over the wound, the bandage applied and the patient returned to bed.

She rallied from the anæsthetic, and although she was weak and her condition one not to warrant hope, she persisted that she would not die. Within twelve hours she began vomiting. The matter vomited was different in character from any before ejected; it was mucus, in which were great quantities of the so-called coffee-ground substance. For four days the emesis continued, the vomited matter growing blacker and increasing in amount. The patient grew weaker and for the first time gave up her hopes of recovery. Everything I had given had been of no benefit. I finally gave infusion of peach-bark, as cold as ice could make it, and gradually the nausea disappeared and the vomiting ceased.

The wound looked healthy—drainage was free through all of the drainage tubes. On the fifth day she had a slight rigor. Since the operation I had, every 8 hours, introduced the catheter, and the urethra was quite irritable, as the chill followed the use of the catheter, I considered it rather of reflex origin than septic. Examination showed slight pus formation in the sutures of the skin. I therefore cut the skin with my tenetome from each suture through, not cutting the loop of the suture. Uusually the skin between the sutures is adherent, and by cutting through from entrance to entrance of suture, you have a loop to the sutures in the muscles and peritoneum, and in proper time you can, by slight traction, remove the deep sutures. In this case the skin had not adhered, but immediately gaped. I then discovered that the muscles also were as separate as at the time of the introduction of the sutures. The peritoneum was adherent and covered by healthy granulations. I decided to apply adhesive straps across the wound and allow the wound to fill from the bottom by granulation, keeping it well powdered with iodoform. From this time on improvement was rapid and steady; by the 14th day every suture was

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removed; by the 18th day every drainage was withdrawn; the wound rapidly healed by granulation, leaving *no* hernia; by the middle of the fourth week the patient was able to sit up; before the end of the 5th week she walked about the house and rode a short distance in the carriage, during the sixth week she rode to and from South Bend, did some shopping, and during the week did quite an amount of sewing. Six weeks and two days after the operation she returned to her home *well*, though not yet fully restored in strength.

This case had many points of interest, not the least of which was the effect the electricity had. I do not believe that a surgical operation such as hysterectomy or oophorectomy could, before its use, have been done successfully, the mass was so large, and the adhesions so great that death must most certainly have followed either method. However, that is mere speculation. I might believe that the electrolysis caused the suppuration were it not for the fact that I have used the same ampereage in a previous case and suppuration did not follow, and since operating upon Mrs. B. I have operated upon a lady of Mishawaka, whose condition as regards suppuration was almost identical—unfortunately the lady died 18 hours after operation. This patient had never been treated by electricity. The rapid and really remarkable decrease in the size of the growths, the fact that the rigors before applying the electricity were of the same character as after, cause me to believe that the electricity really saved her life.

Another point of interest is the apparent harmless condition of the confined pus (in her case), the amount flooding the peritoneal cavity after the rupture of the tumor was great, and caused grave doubts, rather than careless hopes, as to the outcome. The curetting of the liver I think was wise, and although an operation not necessarilly fatal, it is one we should well consider before performing.

The second case was one of submucous fibroid, the lady aged 26, married, multiparous, had suffered four years with excessive floodings—so profuse that she was anæmic and was a great part of the time confined to her bed. May 5, 1890, she came under my treatment, she was bleeding profusely. The os was dilated nearly large enough to admit my index finger. I thoroughly washed out the uterus and vagina with hot antiseptic solution. Mer Bi chl 1 to 1000, and introduced into the uterus the positive electrode, Massey's bulb—large clay negative electrode over the abdomen, and gradually turned on the current to 75 milli., applying it for ten minutes. Attempting to remove the electrode I found it "glued" and I had to reverse the current, using 20 milli. five minutes, when I easily removed it. Flooding ceased within two hours. Four days after, May 9, examination showed the os somewhat more dilated. I then applied negative interuterine, 45 milli. ten minutes. Slight expulsive pains began within a few hours after the treatment, and continued two days, no flooding. After an interval of one week, May 17, I again applied electricity, negative intrauterine, 75 milli. After five minutes contractile pains began, and were so severe that I had to desist. The os rapidly dilated, the pains increased in intensity and severity, with no flooding. About six hours after the treatment she expelled a pear-shaped fibroid tumor, weighing ten ounces. The patient made a rapid recovery, and is now in nearly perfect health. Menstruation has twice shown itself normally—both as to time, quantity and character of the discharge.

This case could have been treated purely surgically without great risk. The os might have been dilated forcibly or by tents, a snare thrown around the tumor and it removed either with the cautery or ecraseur. But considering the fact of her debilitated condition, the danger (although slight) of destroying a part of the uterine wall with the loop, the danger of subsequent endometritis, from the forcible dilatation and removal, was not electricity a far better remedy?

F. L. G., aged 39. Residence, Oklahoma; occupation, government officer. For many years he has been a plainsman and mountaineer, subject to all the irregularities of life and exposures of men in that far and sparsely settled country. About two years ago he was attacked with diarrhœa, which was quickly controlled with morphine. Frequent attacks of diarrhœa and pain followed; constipation and colic were also frequent. Pain was at all times relieved by morphine; the constipation by cathartics. Enemas were frequently used, but did little toward emptying the bowel. The use of morphine pr. orum was finally succeeded by morphine hypodermically, until the patient became a victim of the fiend. From ten to twenty hypodermics of from one-fourth to one-half grain each, were used during the twenty-four hours. During the month of December, 1889, he came East and put himself under the treatment of a much-advertised, if not a celebrated rectal specialist, who diagnosed his case as one of hæmorrhoids, and treated a few pile tumors with hypodermics of carbolic acid. Getting no better he went to Washington, D. C., and there consulted several medical gentlemen eminent in the profession. Strange as it may seem, each diagnosed the case to suit the humor he was in, though not one of them making more than an occular examination of the anus; and none of them diagnosing stricture. While in Washington he failed in strength rapidly, and lost flesh until he was a mere skin-covered skeleton, his weight being but 85 pounds. Considering his case one past help he went to Fremont, Ohio, to die in his childhood's home. Upon arrival there he was suffering intensely with distension of the intestines by fæcal matter and gas. Dr. Stamm introduced an aspirator needle and allowed the gas to escape, thus giving him great relief. April 29 I was telegraphed for and reached his bedside at 8 A. M., April 30. I found him so weak and suffering so greatly that I declined to examine him except under an anæsthetic. Dr. Louis Gessner at once began its administration. After he was thoroughly anæsthetized he was placed on the table and an examination made, revealing a complete closure of the rectum. The whole pelvic cavity was filled with a mass of exudate which to the touch appeared to be scirrhus in its character. It was impossible to find a canal. The operation of colotomy was decided upon, and with the assistance of Drs. Stamm, Pontius and Brinkerhoof, with Dr. Gessner in charge of the anæsthetic, the operation was done. I made an incision through the skin beginning at the left superior anterior spinous process, cutting downward and inward about four inches. The fibers of the different muscles of the abdomen were then separated with the finger, down to the peritoneum. That was cut through with the scissors, and each side of its cut

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surface caught by T-forceps. The colon was then sought for and with no great difficulty found. One side of it was brought through the wound (Fig. 1) and the peritoneum and muscles were stitched with silk sutures around and to it. After the sutures had been placed, the junction of the bowel with the muscles, was surrounded with a "rope" of absorbent cotton, well saturated with iodoform collodion. After the collodion was set and the parts well sealed, an incision was made transversely of the gut. Great quantities of gas escaped, and then irrigation was done, which emptied the bowel of an enormous quantity of fæcal matter. Large rubber drainage tubes were inserted, the wound dressed and the patient returned to bed. He soon rallied from the ether, and I left him in charge of Drs. Brinkerhoof and Stamm. I frequently heard from him, but the information was not satisfactory. June 6 he came to my house. He had gained somewhat in flesh and strength; he had given up the hypodermics, and was using McMunn's Elixir of Opii as a substitute. The artificial anus was doing him good service. I at once took the opii from him and forbade the use of it, or any of its preparations; gave him a thorough Faradic bath and put him to bed. He had filled himself pretty full of the elixir while on the cars, and being very tired had a good night's rest. The next day he was restive and listless. I watched him closely that he should have no opium. At 7 o'clock he took a Faradic bath and went to bed. Within two hours he was delirious—his nervous system was calling for the opiate. I then thoroughly saturated his hair with warm water and gave him through the brain, a treatment of galvanism, 5 milliamperes for ten minutes. He soon thereafter went to sleep, and slept about an hour, when he awoke refreshed. He remained awake for a short time and again began to show symptoms of delirium. I at once repeated the galvanism. After the second treatment he slept nearly four hours; awakening he was rested, and the delirium not returning I applied no more that night.

For five nights the same play was enacted, sometimes two, occasionally three treatments would be necessary. On the sixth night I gave him a galvanization immediately after his Faradic bath, and he slept for seven hours. From that time he had no more battles with the habit. I, however, continued the treatment; sometimes, if he was very tired, I would give him a treatment during the day; he said it rested him. After I had broken the habit, I decided to see what electrolysis would do for the stricture. I accordingly had my assistant, Dr. Camelon, place him under an anæsthetic, and applied negative in rectum, positive over the abdomen, using on the negative a No. 13 F. urethral bulb, using 5 milli. for 20 minutes, when the bulb passed through the stricture. In two days thereafter he was passing small amounts of fæces through the rectum. Fourteen days after the treatment I again applied the current, poles, as before, using a No. 30 F. urethral bulb, 7 milli. for ten minutes. He suffered much pain during the treatment, but lost no blood. Two days after, I irrigated the rectum through the artificial anus and washed out per anus quite an amount of fæcal matter. Three days thereafter he began to pass fæces of good size and consistency through the anus. The discharge through the artificial anus ceased, and fearing that the abdominal wound would close, I introduced steel sounds to prevent so undesirable a result. After a week of no discharge through the wound, I again irrigated. After the colon and rectum were thoroughly cleansed, I passed a soft-rubber catheter into the wound, my finger into the rectum and found the stricture not over an inch in extent. At this time he was feeling so well, and his business requiring his attention, he started for his home in Oklahoma, July 20th; at that time he weighed 131½ pounds. I did not want him to go, his treatment was not finished; and although no desire for the narcotic had been shown, I was not confident that pain or fatigue might not tempt him to again use it.

I accompanied him as far as Chicago, and had Charles Truax & Co. fit him with an aluminum tube. The tube was made of aluminum because it is light, ductile and non-corrosive.

As before said, the treatment was not finished, still the effect produced by the few electrolytic treatments, and the galvanizing of the brain convinces me that but a short time would be necessary to completely cure the stricture, and to remove all desire for opii.

How did galvanism antidote the morphia habit? I theorized much and my conclusions are these. Opii and its narcotic principles, morpia, etc., cause sleep and relief of pain by producing an anæmia of the brain. After the effect passes away a hypæmia supervenes. Frequent doses of the drug causes frequent contractions of the vessels, the following hyperæmia is increased after each dose spends its power. The vascular tonicity is destroyed and the normal caliber of the vessel is lost, the loss of normal caliber permits, without the opiate influence, an increased flow of blood through the brain, which increase causes intense nervous suffering. The galvanic current restores tone to those vessels. The first action is to produce anæmia, by contraction of the cerebral vessels.[1] The reaction is not so great as after opiates, still hyperæmia follows just as it does after the primary effect of the drug has passed. That hyperæmia is not, however, so great, because of the tone given to the vessels by the current. After each application the dilatation following the anæmia is less than before. Such being the case will not those vessels become normal in tonicity, and cannot the terrible effects of the drug be overcome? If so, we have a cure for the habit, and the days of curing (?) it with morphine are numbered.

Dr. Franklin H. Martin: Mr. President, Ladies and Gentlemen, I came here to-night with the idea of discussing suppurative fibroids, as well as electrolysis. If I may be allowed I should like to open my remarks by exhibiting a specimen of suppurating fibroid. This is a case upon which I operated two weeks ago. The history of the case is finished as the patient died on the second day. The case has been of great interest to quite a number of physicians in this city, and as suppurating fibroids are extremely rare that must be my excuse for presenting this specimen to-night. In conversation with Dr. Byford, Sr., some time ago, he said that he had seen five suppurating fibroids during

[1] The post-mortem of Kemmler, executed by electricity since this paper was written, showed the brain to be anæmic.

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his practice, and looking over the literature of the subject in a superficial way, especially the more recent works on gynecology, I find very little mention of suppurating fibroids, that is, fibroids suppurating in their interior and discharging into the vagina, or other parts. In six years I have treated about 225 fibroids by electricity and have seen two suppurating fibroids, this being the first one that I encountered. This case was sent to me three years ago by Dr. M. Caldwell for treatment by electricity. The patient was about 38 years of age, and suffered principally from the pressure of the growth. She was unmarried and was, of course, very much distressed at the deformity the tumor caused. Upon examination I found that I would be unable to enter the uterine canal with the ordinary electrode that is used for intrauterine treatment by electrolysis, because the cervix was crowded up behind the symphysis pubis, well above the bladder so that it had drawn the bladder with the elevation of the uterus. The tumor was situated almost entirely posterior to the uterus, which was wholly above the symphysis pubis almost beyond reach of the index finger, and it was impossible to introduce any kind of a flexible bougie or electrode, and in consequence very little encouragement could be given to the patient without using the galvano puncture, and I did not think it advisable at that time to do so. There was no hemorrhage and therefore no real reason for dilating the cervical canal except to get a more active effect from electricity. I commenced treatment by using a large vaginal electrode, and each alternate treatment using a rectal electrode so that the maximum portion of the electric current would pass through the largest mass of the tumor. This treatment acted as a tonic and the patient improved quite rapidly for a number of months, and stopped treatment. The size of the tumor was reduced quite rapidly during the treatment. In about a year the tumor began to grow again and the same treatment was employed, with the same result, that is, diminution in the size of the tumor, and a general tonic effect on the patient.

About a year ago, fully six months after any treatment had been given and after an interval of improvement, she began to have rigors and symptoms of pus, which continued until the symptoms became very severe, at which time Dr. W. H. Byford was called in to see the case. Shortly after this the patient took to her bed, and upon examining the tumor one day, it ruptured and about half a pint of fetid pus discharged into the vagina. The patient was put under ether and the opening in the tumor dilated as far as possible, drainage tubes put in and every effort made to drain the abscess. The case went on from bad to worse, and after some time, a consultation was decided upon to determine the advisability of operating. Drs. Brower, Holmes, M. Caldwell and Byford, Sr., saw the case at this time.

Dr. Byford argued against operating; he admitted that it seemed the only thing that would give relief, but he did not want the responsibility of advising an operation, so the case was not operated on at that time. The patient grew rapidly worse. If it had not been for the menstrual periods, however, the tumor could have been drained, but at this time the drainage became incomplete, an abnormal temperature developed and she failed very rapidly, each month leaving her in a worse condition than previously. About a month ago, at the earnest request of her friends, consulting physicians and herself, an operation was decided upon. She was taken to the Woman's Hospital, and with assistance of Drs. H. T. Byford, Hoag and Holmes, the operation was done. It was necessary in this case to remove the entire uterus, because the discharge of pus was just back of the cervix, and if any portion of the tissues remained it might prove a source of infection, so complete hysterectomy was done. Everything was done to expedite matters—the patient was very low and it was necessary to get through the operation as rapidly as possible in order to avoid shock—measures were taken for transfusion, etc. The abdomen was opened and the broad ligaments on either side were ligated down to the base. At this time we intended to separate the bladder in front and get into the vagina, then apply broad ligament forceps, similar to those employed in vaginal hysterectomy, and thereby facilitate its rapid removal. The broad ligaments were ligated, the bladder separated and an opening made into the vagina, but the projecting portion of the tumor would not allow us to apply the broad ligament forceps, so a large rubber ligature was applied around the base of the tumor and the mass of the tumor rapidly cut away above it. The forceps could then be applied and the remainder of the tumor was cut away and the wound dressed below as an open wound, and the abdomen was closed. The operation lasted, instead of three-quarters of an hour, two hours and a half. The patient showed symptoms of rallying the first twelve hours, but after that gradually sank and died at the end of thirty-six hours.

I wish to say one word in regard to Dr. Green's paper, not in a spirit of criticism, however. While I feel that his cases may, to a certain extent, represent the effect of electrolysis, at the same time the two cases reported by him to-night of fibroid tumors seemed to me not to give very great evidences of the effect of electrolysis. Electrolysis is chemical decomposition. I do not believe that the chemical decomposition that was obtained in these cases had very much to do with the recovery of the patients or the reduction of the tumor. The tonic effect of galvanism was more apparent.

Dr. A E. Hoadley: Mr. President, just one thought occurred to me while Dr. Greene was describing this very interesting case, and that was, how large a quantity of pus escaped and deluged the peritoneal cavity, and perhaps the pus had been to a certain extent sterilized by 300 milliamperes of electrical force.

Dr. J. H. Etheridge. I know nothing about electricity, Mr. President, but I would like to ask Dr. Greene if I understood him to say that he put a drainage tube through the rectum from the abdominal cavity?

Dr. Green. Yes, sir; in breaking the adhesions there was an opening made through the rectum and I put a drainage tube in there.

Dr. Etheridge. I ask because it seems astonishing to me that a patient could get well with that kind of drainage. I suppose bad results were avoided because there was drainage through the vagina at the same time. I think the doctor is to be congratulated on the wonderful results in this case, I was sure from the description that the patient was going to die.

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Dr. Robert Tilly. Since you have called on me, Mr. President, I would like to say a word in reference to the application of electricity. I am of the opinion expressed by Dr. Martin, that so far as the evidence has been given us the influence of electricity in this case is very questionable. As to the influence of electricity in curing the morphine habit; I think it would be better to present other cases and see if there is not a large amount of imagination somewhere in the influence ascribed to electricity, rather than to attempt to explain the cure on theoretical principles.

I would like to ask a question about the hypodermic use of alcohol, as to what evidence there is that alcohol injected hypodermically does anything toward the recovery of the patient, that is in a dangerous condition from the use of anæsthetics? I have seen it administered a great many times but have not seen the slightest bit of evidence of its utility. Dr. H. C. Wood discussed that matter more or less at the Berlin Conference, and he seemed to be of this same opinion.

Dr. J. B. Green, in closing the discussion, said: Mr. President, if the gentleman had examined this patient as I did when she came to me in April, I think they would have been satisfied that there was a resolvent effect from the use of electricity. I know that she decreased in size rapidly, and that she was able to be up nearly the whole day after beginning its use, while prior to that time she was confined to her bed nearly the entire twenty-four hours. But whether the electricity did or did not give her tone and strength, the fact that the pedunculated tumor which was large and floating could be easily made to disappear, satisfies me that there was an electrolytic influence.

As regards the use of electricity for the morphine habit: I have made no claim that galvanism will cure the morphine habit; I merely cited this one case, and I have another case identical with it that I could cite. It was an experiment with me and it is still an experiment, and I hope it may be an experiment that will prove a benefit to humanity.

The suggestion of Dr. Hoadley that the electricity might have sterilized the pus, looks to me very probable. There is I believe, no literature—or very little, and that not exhaustive—in regard to the use of galvanism on microbes or germs, but it looks probable that electricity may paralyze the microbes.

The case that Dr. Martin presents is one that he and I discussed together in conjunction with the case I have presented to-night, neither having seen the other's case. They were very similar in symptoms. I think Dr. Martin's patient was a little older--that is had suffered longer. I have no claim to set up for electricity; I merely lay it before the gentlemen. If there is anything in galvanism as applied to the brain which will remove the morphine habit, let us have it; if not, we are none the worse for investigating the subject.

C. M. Hansen, M. D., read a paper entitled: *A Case of Acute Retro Bulbar Neuritis.*

I take the liberty this evening to report a case of that obscure disease which from the time of Graefe has been called acute retrobulbar neuritis. I do not intend to touch at old theories nor to advance new ones. I simply relate the history of my patient in the hope that every clinical observation can be of value to the future scientist, who may throw light on the real pathology of the disease.

The patient, Mrs. H., resident of Pullman, Ill., 55 years old, has always been in good health. She has adult healthy children, and does not show any signs of any chronic disease. On March 20, 1890, she took sick with a moderate attack of influenza, which was treated chiefly with antipyrin. Some days later she had a severe headache over the frontal region, that increased in violence during the first week of April, so that she had to remain in bed and use morphine to get sleep. The headache was accompanied with a slight fever, but not with delirium nor loss of conscience at any time. From April 8 her vision became clouded, and thereafter failed rapidly on both eyes without any subjective light or color-symptoms till she got completely blind on April 11. The violent headache continued for one week after the complete blindness set in. Its seat was confined to the frontal region and its severity necessitated free use of morphine. Then from medio April it disappeared gradually. She was now entirely blind, and could not tell light from darkness during four weeks, till May 8, when she at once began to see light. Thereafter some vision has slowly returned. She has been fully conscious during the course of her disease; she has had no return of the headache since it subsided, and all animal functions are in the best order.

She came to me for the first time May 22. I find my notes about her as follows:

May 22, '90. No inflammatory symptoms. The media clear, transparent. Refraction normal. The pupils dilated *ad maximum*, not reacting upon light nor on movements of convergence. Fair perceptibility for light, but poor projection; she is just able to discern light from darkness. Examination of visual field impossible. Pronounced eccentric fixation. No nystagmus.

Ophthalmoscopic view of both eyes: very like to emboli of the central artery in state of recovering. The margin of the optic disc clearly defined, the disc itself of suspiciously white color; veins full, not tortuous; arteries abnormally small. Retina pale, without any evidence of imflammation or bleedings.

The patient looks well. No heart disease. Urine normal.

Treatment: Iodide of potassium and strychnine, the latter in pills.

June 12th. Appearance of the eyes as last time. Eccentric fixation. Vision improved. She can discern objects when close to her, and especially when bright-colored. Visual field of minimum extent.

Ophthalmoscopic view: The arteries are about normally filled, are now seen with double contours. The disc has a decided atrophic appearance with exception of the most internal section.

July 15th. Appearance of the eyes as before. The pupils are yet dilated and immovable. Eccentric fixation. She can now easily discern bright from dark colors, can find her way in her room alone, and can see men and horses in the street from her window. She reads with difficulty the large E in 5 feet distance. (V-$\frac{5}{200}$).

Ophthalmoscopic view: The vessels are normal. The optic disc is atrophied with exception of a half-moon-shaped section on the nasal side. Symmetrical in both eyes. No atrophic spots in the retina.

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August 20th. Unchanged. The vision has not improved during the last 6 weeks. Her general health is excellent.

Ophthalmoscopic view unchanged. Stationary partial atrophy of the optic nerve.

The treatment of the disease has been chiefly hygienic. The iodide of potash and later the strychnine have apparently had no effect.

In discussing the diagnosis of this case, I think hysterical amblyopia can safely be excluded; neither can the atrophy have been caused by a simple embolus nor to an optic neuritis caused by intracranial pressure. Of other possibilities remain the uræmic amaurosis, the toxic amaurosis and an atrophy caused by a descendent neuritis along the optic nerve.

As to the uræmic amaurosis I must remark, that by reiterated examination of the urine of my patient I never found albumen, neither did she ever present any symptoms of Bright's disease. Furthermore a uræmic amaurosis would not go so far as to atrophy of the optic nerve unless considerable albuminuric changes had taken place in the retina.

As to a toxic origin in this instance, particularly by quinine, there seems to be no foundation. She did not get enough quinine even to produce tinnitus aurium. There is no reason to suppose syphilis nor alcoholism.

With exclusion of these causes, it will be seen that my case corresponds exactly with the cases described by Graefe as acute retrobulbar neuritis. The very rapid and complete loss of vision, simultaneously on both eyes, the later occurring compression of the central vessels of the optic disc, the more or less complete restoration within a limited time, point to the existence of an infiltration of the optic nerve, extending downward from the chiasma. Graefe's cases as well as those, later reported, all occurred during or after an attack of some acute fever; typhoid fever, angina, scarlet, and especially cerebro-spinal meningitis.

I have not been able to find reported any post-mortem accounts, but the theory of a neuritis seems to be strengthened by the similarity of its clinical features to those of an inflammatory optic neuritis in consequence of caries in the bony wall of the foramen opticus.

If I am correct in eliminating in this case all other factors, I believe to have diagnosticated a descendant exudative neuritis, possibly in consequence of a localized plastic meningitis. I believe the disease was the result of an attack of influenza, the more so, as there have been reported several diseases of the nervous system, especially neuritis of the peripheral nerves, directly traceable to the epidemic of influenza of last winter.

Before concluding, I would call attention to my patient's eccentric fixation. When fixating an object she turns her eye so as to perceive with some part of the retina, between the yellow and the blind spot. Now, the optic disc of her eye is atrophied, with exception of a small part on the nasal border, and this is just the part of the optic nerve that provides branches for the retina between the optic disc and the yellow spot. This part of the retina is not naturally very perceptible, but she seems to have been able to educate it from the mere perception of light to a tolerably good discerning of the outlines of medium-ized objects.

Dr. Sanger Brown: Mr. President, I don't know that I can say anything that will throw much light upon this subject; it seems to have been pretty fully discussed. I was principally struck with the concluding remarks of Dr. Hansen relative to the extremely devitalizing effect of the recent epidemic. I have noticed in a great many cases nervous phenomena that I felt could be pretty clearly traced to that influence.

Dr. Archibald Church: Mr. President. This case is to me at least, one of great interest. Somewhat recently a number of cases of multiple peripheral neuritis have come under my observation, as well as various other nervous affections, which are directly attributable to la grippe. In multiple neuritis the optic nerve is so rarely affected that such a case is not recorded as far as I know, though it is impossible to conceive anatomical grounds for its exemption, and it is possible that the neuritis in this instance is of a similar nature, and possibly, as Dr. Hansen intimated, caused by the shortly preceding attack of influenza.

I was impressed with the fact that there was a continuous, severe headache lasting a number of weeks, and such a headache is always suggestive of meningitis, but if meningitis caused the optic neuritis, it is difficult to understand the escape of other cranial nerves. The implication of the pupillary reflex from the first, shows that the lesion was situated anterior to the chiasma, implicating the ciliary nerves in their chiasma implicating the ciliary nerves in their course within the optic nerve sheath.

Dr. W. F. Coleman: Mr. President: This case is of chief interest from a pathological standpoint. It may be assumption on my part to question the correctness of nomenclature; it is usually described as neuritis, but if we compare it with cases of intra-ocular neuritis, which we can see with the opthalmoscope, we find the latter occurs with vision almost or quite normal. There are different types of retro-ocular neuritis: there is a toxic type which comes from the use of tobacco and alcohol. Some have doubted this, but the recent investigations of Uhthoff should correct that doubt. The impairment of vision in toxic neuritis may be great but rarely reaches total blindness, whereas in the cases described—which belong I think to quite another type of retro-ocular neuritis—the blindness comes on quite suddenly and does not recover as it may do in so called embolism, or spasm of the retinal arteries. I have seen blindness occur with spasm of the vessels, exist a few minutes then disappear, but repeat itself until finally the spasm continued too long and the patient remained blind. In the so-called retro-ocular type of neuritis described, the blindness, comes on suddenly, is complete and permanent. I cannot suppose that would occur from a simple neuritis, I cannot conceive of a neuritis proceeding so rapidly as to cause sudden total blindness, nor do we see intra-ocular neuritis producing blindness until it is in an advanced stage. Therefore I consider the case of the author of the paper the result of pressure, either hemorrhagic or serous upon the nerve or retinal artery. I have seen one instance a fibrous and purulent exudate into the vitreous, which I think was due to infection from the grippe.

Dr. Tilley: I wish to express my very high appreciation of this interesting case and the able way in which the doctor has presented it. I am, however, of

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a different opinion from him relative to the origin of the trouble, and the reason that causes this difference of opinion is a certain personal experience which occurred to me. The doctor told us that the chief ingredient, as far as I understand it, used to assist the patient during the attack of grippe, was antipyrin. I must confess that personally I am unusually careful about the use of antipyrin, on account of the personal experience I refer to. Early in the history of antipyrin, I determined to take a little myself. I only took five grains, but within five minutes after I had taken it, the mucous membrane of my nose swelled up to such an extent that I could not breathe through it, and a violent attack of sneezing set in. It was Sunday morning when I tried the experiment, and I concluded that I could not go to the dinner table because it was impossible for me to speak with clearness. At the expiration of about two hours I could speak with a certain amount of clearness, and I concluded to go to the table and avoid talking as much as possible. About six o'clock in the afternoon I called on Dr. Curtis and asked him to look into my throat. He said the uvula was swollen and the membrane back of the uvula stood out enormously.

Now, suppose some one else has this idiosyncrasy to antipyrin. What should prevent that same swelling extending up into the frontal sinus and even into the orbital cavity and exerting a very large amount of pressure on both branches of the optic nerve? And if that was the case, I can readily see that the severe headache the patient complained of might exist for a considerable length of time, and it is quite possible, also, that the swelling occurring in the frontal sinus might not have disappeared so readily as the swelling in my case disappeared. Mine had greatly diminished by the next morning, but while it lasted, I was seriously inconvenienced by it. I slept during the night with great inconvenience, having to keep my mouth open a part of the time. My opinion is (apart from further evidence) that it is not impossible it was the antipyrin that caused the peculiar swelling and the difficulties which resulted.

Dr. C. M. Hansen in closing the discussion, said: In reply to Dr. Brown, I will say that I only have the history of the patient from examination. I did not see her until most of her trouble was over and after she had commenced to see a little again. I do not know about the condition of her sense of smell—it may be that it had been destroyed. I do not know how much antipyrin she used, but she had the influenza for a week before the headache came on and she was treated during that time with antipyrine.

As to the real pathological cause of the patient's trouble, I did not go into it in detail and, as I said in my paper, I do not advance any theory about it. The only thing I can do is to present the case and show its analogy with those cases which Graefe describes under the head of acute retrobulbar neuritis.

Dr. J. B. Greene said: This specimen is a dermoid cyst that I removed in 1883. It was filled with a substance that was sebaceous in character, and weighed, when removed, 58 lbs. By everting and turning it out we find great tufts of hair all through it, part of the ilium or scapula, I can't tell which—it resembles both very closely. Here is a very close resemblance to the fœtal head showing, the inferior maxillary and tongue, and on one side is a resemblance to the penis and scrotum. There are a great many teeth scattered through, some incisors and some molars.

The lady from whom this was removed was 32 years of age, unmarried, and I believe a virgin. Her mother told me that at 15 years of age she began to complain of pain in her right side, and that a growth was noticed which continued until this was removed.

We can theorize as to what this is, but we don't know. My opinion is that it is a one-sided development, that is that the ovum when ripe is not discharged —I believe that the female can ovulate in infancy— that the graafian vessicle did not rupture, and the ovum continued on to a one-sided unimpregnated development, just as we will sometimes see a blasted ear of corn on a single stock where no other stocks have been near impregnate it with pollen.

Dr. Hoadley: I should like to hear Dr. Greene explain the presence of dermoid cysts in other parts of the body where there are no graaffian vesicles to rupture.

Dr. Greene: I have seen a number of dermoids and never saw one removed from any other part of the body except the testicles or ovaries or broad ligaments in which there was more than spiculæ of bone. There are bones here that are well formed, and teeth that are well formed, but as I said before, it is mere speculation; I don't know, I don't believe any one knows and I don't believe any one ever will know. The lady made a rapid and in every way, a satisfactory recovery.

The Old Oaken Bucket.

BY J. C. BAYLES.

With what anguish of mind I remember my childhood,
Recalled in the light of a knowledge since gained;
The malarious farm; the wet, fungus-grown wildwood,
The chills then cohtracted, that since have remained;
The scum-covered duck-pond, the pig-stye close by it;
The ditch where the sour-smelling house drainage fell;
The damp, shaded dwelling, the foul barn-yard by it—
But worse than all else was that terrible well,
And the old oaken bucket, the mould-crusted bucket,
The moss-covered bucket that hung in the well.
Just think of it! Moss on the vessel that lifted
The water I drank in the days called to mind—
Ere I knew what professors and scientists gifted
In the water of wells by analysis find—
The rotting wood fiber, the oxide of iron,
The algæ, the frog of unusual size,
The water—impure as the verses of Byron—
Are the things I remember with tears in my eyes.
And to tell the sad truth, though I shudder to think it—
I considered that water uncommonly clear;
And often at noon when I went there to drink it,
I enjoyed it as much as I now enjoy beer.
How ardent I seized it with hands that were grimy,
And quick to the mud-covered bottom it fell;
Then soon with its nitrates and nitrites, and slimy
With matter organic it rose from the well.
Oh! had I but realized in time to avoid them,
The dangers that lurked in that pestilent draught.
I'd have tested for organic germs, and destroyed them
With potassic permanganate ere I had quaffed;
Or, perchance, I'd have boiled it and afterwards strained it
Through filters of charcoal and gravel combined;
Or, after distilling, condensed and regained it
In portable form, with its filth left behind.
How little I knew of the dread typhoid fever
Which lurked in the water I ventured to drink,
But since I've become a devoted believer
In the teachings of science I shudder to think.
And now, far removed from the scenes I'm describing,
The story for warning to others I tell,
As memory reverts to my youthful imbibing
And I gag at the thought of that terrible well,
And the old oaken bucket, the fungus-grown bucket—
In fact the *slop*-bucket—that hung in the well.

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Western Medical Reporter.

A Monthly Epitome of Medical Progress.

JOHN E. HARPER, A. M., M. D., EDITOR.

G. FRANK LYDSTON, M. D., ASSOCIATE EDITOR.

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THE EDITOR would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information should be accompanied by the full name and address of the writer, although not necessarily to be published. All communications should be addressed to

WESTERN MEDICAL REPORTER, 163 State Street, Chicago.

The Meeting of the Mississippi Valley Medical Association.

The meeting of this Association, which has just closed, was a brilliant success. The papers were of an exceptionally high order, and well discussed. The social features were as usual, highly commendable. The society is to be congratulated on the election of Dr. C. H. Hughes, of St. Louis, to the presidency for the coming year. Dr. Hughes is an able and charming man and will make an excellent president. The meeting just past was very long, perhaps a little too long for the present arrangements. It is possible that sections may become necessary.

The Chicago Medical Society Criticised.

A recent number of the *Medical Standard* severely criticises the Chicago Medical Society. With all due deference to the opinion of the editor of the *Standard*, we defy him to show wherein the Chicago Medical Society is not one of the best of its kind. It is liberal, progressive, attends to its own affairs and numbers only reputable men among its members—with one notable exception. It has never meddled in matters not germane to science and has ever been to the front in sustaining the morals of the profession. Through the efforts of a distinguished member of the Chicago Medical Society infanticide no longer blackens the social and medical atmosphere of Chicago. Who has ever heard of this society interfering in medical or other politics? Another thing—clique or ring rule will never dominate this society. Be more explicit brother K, or forever hold thy peace.

The Chicago Academy of Medicine.

This society starts out under the most favorable auspices. Chicago has long needed a society the aim of which should be the encouragement of medical science and the avoidance of medical and other politics. Good-fellowship is another feature of the new society. The membership is limited to fifty and there are already many applications on file. The directors elected for the current year are Drs. H. N. Moyer, J. G. Kiernan, S. V. Cleninger, Marshall D. Ewell, and G. Frank Lydston.

Dr. Bransford Lewis.

We take great pleasnre in announcing that Dr. Bransford Lewis, of St. Louis, has been elected lecturer on genito-urinary and venereal diseases in the Missouri Medical College. Dr. Lewis has been doing excellent work in his chosen specialty, and the college is to be congratulated on its valuable acquisition. Dr. Lewis is not only a capable teacher, but a royal good fellow, and we wish him success.

Men of Whom the Profession is Proud.

DR. CHARLES HAMILTON HUGHES.*

Dr. Hughes, of St. Louis, is remotely of Welch-Irish stock on the paternal side and French and German on the maternal, but directly descended of American revolutionary stock. His great-grandfather, Richard Hughes, who served with Washington at Valley Forge, receiving a wound in action at the battle of Brandywine, settled at the close of the revolutionary war (through which he served), at Rockingham County, Va., where he died at the age of one hundred and five years.

This paternal ancestor once occupied and owned, before his final settlement in Virginia, the site where the city of Harrisburgh, Pa., now is. The lineage of Dr. Hughes' family, besides being unbrokenly descended from one of the sires of the revolution, is clearly traceable, according to Challoner's record of British pedigree, to the best royal blood of Wales.

Dr. Hughes was born in St. Louis on the 23d day of May, 1839, partly educated in the public and private schools of that city, and completing his medical education there, where he graduated at the St. Louis Medical College, in 1859, having devoted four years at that early day to the study of medicine and allied sciences before graduating.

His literary education was further pursued at Dennison's Academy, in Rock Island, and at Iowa College, Davenport, then under the control of a picked faculty from Amherst College.

Dr. Hughes' professional life began as an acting assistant physician in the United States Marine Hospital service at St. Louis, while he was yet a student. Then one year as a country practitioner; then, after visiting the hospitals and colleges of the East, he entered the Government service as an assistant surgeon in the early part of the war, being promoted to full

* We are indebted to the *Medico-Legal Journal* for this excellent biographical sketch of Dr. Hughes.

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surgeon in July, 1862, when, under direction of Medical Director Madison Mills, he took charge of the Hickory St. Post Hospital and the McDowell Prison Hospital of St. Louis, having been previously removed by the same order from the U. S. Marine General Hospital, which by the same direction he had assisted in transforming from a marine to a military hospital for the reception of the sick and wounded after the first battle of Shiloh.

Dr. Hughes was an active medical officer during the war to his honorable muster out of service in 1865, having had entire medical charge, with suitable assistants, of the forces from St. Louis to Pilot Knob in 1862-3, including a field hospital at Victoria, and post hospitals at De Soto, Ironton and Pilot Knob, Mo., besides medical charge of the straggler's camp at St. Louis, and at the same time of Price's final raid into Missouri, of the refugees and freedmen.

But Dr. Hughes' military services do not materially interest us save as showing the varied and extensive character of that general experience which had operated to train his judgment for the solution of those grave medical problems which have subsequently claimed and so satisfactorily received his attention.

Our interest in the life of Dr. Hughes begins with that epoch in his career when he laid aside the tourniquet and scalpel of the surgeon, which he so successfully wielded that one of his hospitals was characterized from inspection headquarters as the best conducted field hospital in the service, for the implements of the psychiatric clinician, an event which metamorphosed the military surgeon into the peaceful alienist, the good surgeon into a better and more widely known neurologist. The transition took place when in 1866 he was placed upon the Board of Management, and early in 1867 was called to the Medical Superintendency of the Missouri State Lunatic Asylum at Fulton, Mo., then the only institution of the kind in the State, but now called No. 1, because of the two other similar State asylums which have since been established there. Dr. Hughes remained at the medical head of this large institution,—whose average number of patients was over 300 of all the varying forms of mental aberration,—for over five full years, making annual visits to other institutions within and without the United States, and studying with that zeal which has always characterized his professional life, the varying phases of mental disease in hundreds of hospitals, and with the kindly assistance and advice of the venerable Ray and Stribling, of Workman and Landor and Howard, of Tyler and Gray and Pliny Earle and Bucknill, and of hosts of other famous names among the living and the dead in the walks of clinical and forensic psychiatry, who were the friends and patrons of his youth, until his young heart was filled full with the grandeur of his chosen pursuit, and stimulated into a life-long enthusiasm by the noble example of lives so illustrious and so worthy of emulation.

Dr. Hughes was the youngest medical superintendent of any American hospital at the time he was appointed, as he was probably one of the youngest surgeons in the Union service when he was commissioned. He early identified himself with the Association of Superintendents of American Institutions for the Insane, meeting annually with this distinguished body and coming in contact with its shining lights, imbibing illumination and experience from the more venerable in years and knowledge of that distinguished body. In 1876, at the International Medical Congress, held at Philadelphia, he read before the Section of Psychiatry the first American contribution ever made before any public association on the interesting subject of the "Simulation of Insanity by the Insane." This paper was at the time and still remains the most systematic and complete treatise extant upon this important subject in forensic psychiatry.

Dr. Hughes' previous essay at Nashville, Tenn., before the Association of Superintendents, entitled "Psychical or Physical," being an inquiry into the relation of mind and organism and a critical discussion of the mind and matter problem, which then, so shortly after Maudsley's first work had appeared, was attracting so much attention from mental philosophers and alienists, made a marked impression upon the association and the profession without, as a remarkably clear presentation of a much discussed and much obscured subject.

Since the classical essay on simulation Dr. Hughes' contributions have been numerous and almost constant, until nearly every practical subject which might engage the attention of alienists and neurologists in active practice, has received elucidation in in some phase from his clearly-descriptive pen. Besides the many medico-legal papers, he has edited the *Alienist and Neurologist*, a journal of scientific, clinical and forensic psychiatry and neurology, which was founded in 1880, and has contained in each number, from its birth to the present date, samples of his industry, both in its original and editorial departments. This journal has always been a favorite with students of medico-legal psychiatry and clinical neurology, because of the peculiar perspicacity, the force, simplicity and practical character of his editorial utterances and the soundness of its doctrines generally. It has run and holds a special and peculiar place in the field it occupies, and its success is at least chiefly due to its distinguished editor.

Dr. Hughes' latest and best contribution to psychiatry, whatever biased critics with other definitions of their own may think, is in the "true nature and definition of insanity," read at the last International Medical Congress in Washington, 1887, before the section of psychiatry, of which Dr. Hughes was one of the vice-presidents, as he was also one of the vice-presidents of the Physiological section, but another excellent and enduring contribution by Dr. Hughes was given to the previous International Congress at London, which, though open to criticism from certain sources — for it was on the vexed and mooted question of moral insanity—received European commendation from exalted sources of psychiatric distinction.

Dr. Hughes' several contributions to psychiatry, as already intimated, have been too numerous for designation here. He is known by his work and of his work, and from his work is inseparable to those who know him. Wherever he goes his works do follow him and, it is all good work.

Besides his membership in the Association of Superintendents, American Neurological, American Medical and local medical associations, which show his active interest in his profession, he is an honorary member of the British Medico-Psychological Society, corresponding member of the New York Medico-

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Legal Society, and of other distinguished professional bodies. He has long been a lecturer on psychological and neurological medicine and electrotheropy in one of the renowned medical colleges—the St. Louis—and is now professor of nervous diseases, psychiatry and neurotherapy in the Marion Sims College of Medicine of St. Louis, and is besides engaged in an active and remunerative practice, limited to nervous and mental diseases only, in his native city. He is emphatically a busy man—never idle—whose practical motto, as exemplified in his daily life from his youth up, seems to have been "*Labor omnia vincit*," and in him and in his work it has accomplished much, and is likely yet to achieve much more, for he is still in the prime of life, in the full tide of a vigorous, industrious and enthusiastic manhood, with a zeal undiminished in his chosen and devoted life-work. His name is synonymous with Alienist and Neurologist—the work he edits—and we hope he may live long among us to enjoy, and that we may enjoy, the fruits of his zealous labor in a great cause.

Notes on the Alkaloids.

CAFFEINE IN PNEUMONIA.

Te Gempt claims that the use of caffeine is indicated in the course of acute fibrinous pneumonia when the heart begins to be enfeebled, the blood-pressure of the aortic system lowered, or when the pulse becomes unusually frequent or irregular. The use of the drug should be begun before symptoms of collapse appear. It should be used at the beginning of the disease in debilitated persons, drinkers, old people, and in subjects of cardiac disease. When used at the proper time and in sufficient doses it diminishes the frequency of the pulse and of the respiration, and increases arterial pressure, lowers temperature, and produces a sensation of well-being. After the period of apyrexia it is unnecessary to continue its administration.—*Revue des Sci. Méd.* Jan. 1889.

PILOCARPINE IN CHRONIC ARTICULAR RHEUMATISM.

The therapeutics of rheumatics is bounded by narrow lines; for while in acute rheumatism in salicylate of sodium, antipyrin, salol, and phenacetin we have remedies any one of which is in many cases worthy of commendation, and enables us to treat the disease quite as satisfactorily as is the case in malaria or syphilis; in the chronic form but little may be expected from them.

About ten years ago, Dr. Colman Korda called attention to the use of pilocarpine in cases of chronic articular rheumatism, but his statements appear to have attracted no attention, and we have met with no publication on the subject until Dr. Hochhalt published the results of his experience. Pilocarpine, as is well known, produces great increase in the secretion of the salivary and sweat glands, and leads to such increase in tissue-change that organized exudation products of inflammation are dissolved, and results of retrograde tissue metamorphosis are eliminated. As an illustration of the truth of these statements, it is only necessary to recall the value of pilocarpine in ophthalmological practice, as in cases of opacity of the vitreous humor, or in iritis or iridochoroiditis, where it is especially serviceable in removing the products of inflammation. In diseases of the internal ear and in severe types of syphilis, and in dropsy of renal origin, it has recently been recommended by Von Ziemssen and Senator.

Dr. Hochhalt describes a case of chronic articular rheumatism, which seems to show that the use of pilocarpine is capable, to a certain extent, of relieving the less intense form of connective-tissue contraction, and to a certain extent of restoring the use of an affected joint. Of course, where the joints are bound down by old contractured muscles, or where the bone itself has become affected, but little may be expected, though the very fact that in certain cases relief may follow the use of pilocarpine is to be regarded as an important addition to our therapeutic measures.—*Ther. Gazette.*

In a case of *nocturnal incontinence of urine*, Prof. Bartholow prescribed ⅛ grain of pilocarpine at night, to drive the superfluous secretions to surface. Food in afternoon and cut off extra supply of fluid.

Pilocarpine is said to be of distinct advantage in *Méniere's disease* if given early. It may also be used with success in aborting an attack of ague if given at the very outset.

Book Reviws.

"Education and Culture as Correlated to Health and Diseases of Women." Alex. J. C. Skene, M. D., G. S. Davis. Detroit, Mich., pp. 127. Paper 25 cents.

The writer of this little work, in an able and interesting manner, deals with a question which so intimately affects the social and domestic relations of society, and shows a thorough understanding of human nature.

"Diabetes." A. H. Smith, M. D., Prof. of Clin. Med. and Ther. New York: Post Graduate Medical School; Physician to the Presbyterian Hospital; Consulting Physician to St. Luke's and to the Orthopædic, etc., etc. Geo. A. Davis, Detroit, Mich. Pp. 74. Paper 25 cents.

The author, to quote his own words in the preface, says: "The object of this little work is not to compress into the fewest possible words all that is known or surmised in regard to diabetes, but to give the points which will most interest those who have to manage cases of this disease."

"Monthly Nursing." A. Worcester, A. M., M. D., Physician to Waltham Hospital. Second edition. Appleton & Co., New York.

The little book of 250 pages is the outcome of a series of lectures delivered at the Boston Lying-in Hospital. The work was intended for nurses mainly and relates to the care and treatment of the woman from the time of conception to delivery, with treatment of both mother and child after delivery. The appendix contains recipes of food for invalids, abbreviations, glossary of medical terms, etc. It is extremely practical and, although intended for nurses, is well worthy the perusal of physicians.

James A. Lydston, M. D. Ph. G., has been elected to the chair of chemistry at the College of Physicians & Surgeons, Chicago. Dr. Lydston is a graduate of the Chicago College of Pharmacy, and quite popular among the alumni of that excellent institution, having been President of the Alumni Association some years ago. Dr. Lydston has recently returned from Washington, D. C., where he occupied the position of chief of the eye and ear department of the pension bureau for three years. He is at present secretary of the local pension board.

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Western Medical Reporter.
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ORIGINAL ARTICLES.

Arrest of Evolution Versus Maternal Impressions.

BY ARCH. DIXON, M. D., HENDERSON, KY.

The subject of maternal impressions upon the fetus *in utero*, at all times an interesting one to the more thoughtful members of the medical profession, has recently been brought into prominence by the able article on "Fœtal Deformities," read by Fordyce Barker before the American Gynecological Society, at Baltimore, in September, 1886, and more recently by an able paper from my esteemed friend, Dr. T. B. Greenley, of Kentucky, published in the *American Practitioner and News*, October 29, 1887. Both of these gentlemen have cited cases and produced arguments to prove that mental impressions upon the mother are conveyed to the fœtus in utero, and are the cause of monstrosities, amputations, nevi, etc.; but, like Hammond, Dalton, Tuke, Seguin, and other eminent advocates of this theory, I believe neither of them claims that these effects are brought about otherwise than through the medium of the blood, which in some way conveys the influence of the existing condition of the mother to the fetus by the interchange of circulation. The evidence brought forward by these gentlemen is far from conclusive, and I think can be successfully refuted by the proof of demonstrated pathological, physiological, and embryological truth, which undoubtedly reveals that all of these so-called maternal impressions, monstrosities, marks, etc., are the results of arrest of development or evolution, pressure by amniotic bands, pressure by the umbilical cord, adhesion of the placenta, or by some pathological condition of the fetus or its membranes, or by heredity.

In order to do this it will be necessary to glance as briefly as possible at the anatomical and physiological relations of the mother to the embryo. Immediately after the fertilized ovule has passed into the fallopian tube it is found to be surrounded by a layer of granular cells. As it proceeds along the tube these surrounding cells disappear, partly by friction on the walls of the tube, and partly by being absorbed to nourish the ovule. When the ovule has advanced some distance along the tube it becomes invested with a covering of albuminous material, which also, according to Newport, contributes to its nourishment. During this passage of the ovum through the fallopian tube, the mucous membrane of the uterus becomes thickened and vascular, so that its opposing surfaces entirely fill the uterine cavity. The result is the formation of a distinct membrane (decidua vera) which affords the ovum a safe anchorage and protection until its connections with the uterus are more fully developed. The decidua reflexa is now formed by the sprouting of the decidua vera around the ovum at the point on which the latter rests, and eventually completely surrounds it. The blastodermic membrane, which forms a complete spherical lining to the ovum between the yolk and the zona pellucida, soon divides into two layers, the most external called the epiblast and an internal called the hypoblast, and between them is subsequently developed a third known as the mesoblast. From these three layers is formed the entire fetus; the epiblast giving origin to the bones, muscles, and integuments, the nervous system, the serous membrane, and the amnion; the hypoblast forming the mucous membranes and the alimentary canal; and the mesoblast the circulatory system.[1]

Almost immediately after the separation of the blastodermic membrane into layers, the area germinativa is formed, and in the center of this the first trace of the fetus is detected in the form of the "primitive trace." On each side of the primitive trace two elevated plates arise, the laminæ dorsales, which gradually unite posteriorly to form a tube within which the cerebro-spinal column is subsequently developed. Anteriorly they join to form the thoracic and abdominal cavities, inclosing portions of the epiblast, from which the serous membranes of the body are developed. The minute embryo thus formed soon curves upon itself, the dorsal surface of the body becoming much arched. The arching of the back is caused by the quicker growth of the dorsal surface, and by Haeckel is said to be directly connected with the detachment of the embryo from the yolk sac. A distinct thickening is observed at one end, which is subsequently developed into the cephalic extremity of the fœtus, while at the other end a thickening less marked develops into the caudal extremity. From these two points the amnion is formed, composed of two layers, which gradually unite and inclose the fetus. During this time the hypoblast is also developing two projections at either extremity of the fœtus; one forms the intestinal canal, and the other and much the larger forms the umbilical vesicle, from which the fœtus derives the most of its nourishment during the early stage of its existence.[2]

About the twentieth day after conception a small vesicle is formed toward the caudal extremity of the fetus—the allantois or urinary sac of Haeckel—which "grows out from the hindmost part of the intestinal canal; the innermost portion of it afterward changes into the urinary bladder; the outer part with its vessels forms the foundation of the placenta."[3] As has already been said, the ovum in passing through the fallopian tube receives an albuminous coating, and this with the zona pellucida is developed into a temporary structure, the primitive chorion. On its external surface villi are thrown out, the office of which is to nourish the ovum by endosmotic absorption from the mucous membrane of the uterus. As early as the twelfth day after conception the *true chorion* is formed with its villi, which dip down into the tissues of the reflexa and are enveloped by it, absorbing what is termed by Ercolani the "uterine milk." "The mammalian embryo, during the period which precedes the extension of the allantoic vessels into the cavities of the uterine walls to form the placenta, must be nourished by direct diffusion, first from the contents of the fallopian tube, and subsequently from the decidua. * * * The marked increase of bulk which takes place during the conversion of the mulberry mass into the blastodermic vesicle shows that during this epoch, relatively speaking, a large quantity of water at least and probably of nutritive matter must

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pass from without into the ovum, and subsequently, though the blastoderm and embryo may for some time draw the material for their continued construction at first hand from the yolk sac or umbilical vesicle, both this and they continue probably until the allantois is formed to receive fresh material from the mother by direct diffusion."[4] "The changes which ensue from this period onward are fully known. The amnion continues to dilate (its cavity being tensely filled with amniotic fluid) till it comes very close to the chorion, from which, however, it remains separated by a layer of gelatinous tissue. The villi of the chorion in the region covered by the decidua reflexa gradually cease to be vascular, and partially atrophy, but in the region in contact with the decidua serotina increase and become more vascular and more arborescent. The former region becomes known as the chorion leve, and the latter as the chorion frondosum. The chorion frondosum together with the decidua serotina give rise to the placenta."[5]

Up to this time the embryo has been sustained by nutritious material secreted by the uterine glands, and absorbed by the villi of the chorion. Now the method is changed, and the fetal placenta, which is formed from the chorion frondosum becomes intimately blended with the maternal placenta formed from the decidua serotina and the maternal blood-vessels, and which consists of a cavity containing the maternal blood, into which the villi of the chorion penetrate. But the fetal and maternal blood do not mix, for none of the maternal blood escapes when the umbilical cord is cut, nor can the minutest injections through the fetals vessels be made to pass into the maternal vascular system, or *vice versa*. "The vessels of the mother never anastomose, nor do they come into immediate contact with those of the fetal placenta."[6]

Experiments made by Robin and M. Bonami were conducted with the most extreme care, and in summing up their conclusions they say, "Again, all the minute vascular ramuscles are so intimately connected that it is impossible to separate the vessels belonging to the mother from those peculiar to the fetus and they can only be distinguished from each other by the different colored injections. But, although the two series thus interlace, the maternal branches never communicate by their terminal extremities with those of the fetus; since the finest injections, when most carefully made, have never established a direct communication between these two orders of vessels, unless by rupture of the walls."[7]

In speaking of the maternal capillary vessels which pass into the body of the placenta, Robin further says, "Having entered the placental tissue, they dilate and communicate so largely as to form throughout the entire mass of the placenta a pool of blood, which bathes the entire placental surface of the chorion at the point of attachment by the pedicle of each villus. The expanse of blood penetrates the fine sponge like interstices between the reticulated ramifications of the villi. But nowhere is there any direct communication between the maternal and fetal blood."[7]

"No nerves or lymphatics exist in either portion of the placenta. The cord contains no nerves, no capillaries, not even vasa vasorum, and no lymphatics."[8]

"Nor has any anatomist ever traced the passage of any nervous branches from the applied surface of the uterus, nor have nutrient arteries been, as yet at least, shown to pass from the uterus into the maternal substance of the placenta."[9]

Other authorities could be cited showing that there is absolutely no direct connection between the mother and fetus, either vascular or nervous, but it would be superfluous to do so. The function of the placenta is undoubtedly to nourish the fetus, and it does this by a process of endosmosis and exosmosis. Just here I wish to call attention to two or three points in Dr. Greenley's article. He says, "If it could be fairly elucidated that there is direct interchange of blood current between mother and child, the oxgenation of the fetal blood would be much more simplified; whether there is direct communication or not, we know that in placenta previa both mother and child are liable to be lost by hemorrhage from separation of the placenta." In such cases the mother frequently is lost from hemorrhage, but the fetus dies from asphyxia, not from hemorrhage; the asphyxia being due to the fact that the placenta is separated, and the fetal blood is cut off thereby from the necessary oxygen which is furnished through the medium of the maternal circulation. Again, the doctor says, "As to whether there is any nervous intercommunication between the mother and child, we all know that the child can be shocked through the medium of the mother. If you place a cold hand on the abdomen of the mother after the sixth month of pregnancy, you will immediately be very sensibly impressed by its movements." This is true, but the movements of the child are not due to any nervous shock received by it, but are due to uterine contractions which are produced immediately by the application of the cold hand. A nervous shock may and sometimes does produce abortion, the abortion being due, not to any influence upon the fetus, but to the contractions of the uterus which are brought about by the influence of the shock on the nerves of the mother. The pregnant uterus is prone to contractions, so much so that uterine contractions are recognized as one of the unfailing signs of pregnancy. Ichthyosis was long since described by Sir J. Y. Simpson as an intra-uterine disease. One more question by Dr. Greenley requires answer. He says, "Again, how are syphilis and phthisis communicated to the offspring through the semen of the father?"

The semen of the father does not communicate syphilis to the fetus; the spermatozoon does not carry the syphilitic germ. The child acquires syphilis through the medium of the maternal blood, the mother herself having been previously inoculated. I am borne out in this statement by the bulk of authority among syphilographers. The bacillus tuberculosis most assuredly is not inclosed in the spermatozoon; the child inherits from either or both parents the tendency to consumption, that is, it inherits a fruitful soil for the growth of the tubercle bacilli, which must first be planted there before phthisis can develop.

So much for the vascular and nervous connection of the mother and fetus. Let us glance at the development of the fetus. As early as the first week the thoracic extremities are beginning to form, the abdominal members are present, the vertebral divisions are apparent. The heart exhibits, in its external form, a tolerably close resemblance to that in the adult; the lungs are constituted of five or six globules in which the bronchial extremities can be readily dis-

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tinguished. During the seventh week the first centers of ossification appear, first on the clavicle and then on the lower jaw. At two months the forearm and the hand can be distinguished, the eyes are prominent, the nostrils are rounded and separated, the mouth is gaping, and the epidermis can be distinguished from the true skin. At ten weeks the thoracic parietes are apparent, the fingers are distinct. At the third month the feet are fully formed, and by the fourteenth week the abdominal plates have united at the umbilicus, the genital organs are distinct, and the maxillary processes with their soft parts have united, forming the upper lip. It will then be seen that, if the emotions of the mother ever affect the fetus so to induce deformity, this must be done at or before the precise time at which the deformed part is undergoing evolution.

That arrest of development or evolution in the fetus does occasionally take place is true, but it is equally true that the arrestment is not due to maternal impressions. The cause of arrest of development may be local or general, as injuries to the mother's abdomen, diseases of the uterus or its membrane, or from hereditary transmission of deformities.

In an essay on compound human monsters, we find these words:

"The maturely and normally developed human body was compared with the embryo. The various species of organized beings and their embryos were compared with man, and as a result we became acquainted on the one hand with the ultimate structure, composition, and the science of the human body, on the other with the general facts, plans, and unity of animal organization, including all its multiform genera and species in every age. On these comprehensive views a new theory of anomalies and monstrosities was founded, viz., that of arrest and retardation of development which is now found to explain many varieties of monstrosities, but more particularly those which should be regarded as vices of conformation, as for example, cleft formation, deficiencies, absence of parts, etc. By a careful study of the laws of development and the order in which the various organs are evolved in the embryo, it has been observed that monsters by defect or arrest of development are to a certain extent permanent embryos. The abnormal organs merely represent the primitive condition of formation as it existed at an early stage of embryonic or fetal life."[10]

The happy idea that was first suggested by the master mind of Harvy, relative to certain malformations consisting not in the substitution of an entirely new and anomalous type of structure in the malformed part, but only in the simple permanence of some of the transitory fetal types, has been reduced during the present century into one of the most certain and comprehensive and at the same time one of the most beautiful laws in teratologioal anatomy. The human germ in passing through its evolution represents anatomically all the types of animal life from the lowest to the highest. "The majority of educated people have never seen such a human germ, nor are they aware that it is at all different from those of other animals. They do not know that at a certain period this embryo has essentially the anatomical structure of a lancelet, later a fish, and in subsequent stages those of amphibian and mammal forms, and that in the further evolution of these mammal forms those first appear which stand lowest in the series, namely, forms allied to the beaked animals (Ornithorynchus), then those allied to pouch animals (Marsupialia), which are followed by forms most resembling apes, till at last the peculiar human form is produced as the final result. These significant facts are so little known that when incidentally mentioned they are commonly doubted or regarded as unfounded inventions."[11]

Let us suppose now that an arrest of evolution takes place at one or any of these transitory embryonic stages. The embryo remains a permanent embryo of that stage in whole or in part, possessing in all essential points the organization of the primitive condition of formation of that stage of embryonic or fetal life during which the arrest of development took place. The arrest of evolution may affect the cephalic extremity, and the woman go on to term and be delivered of a child perfectly developed in all its parts save the head (anencephalus), and here we have the resemblance which characterized the embryonic stage at which the arrest occurred. At once you have a story manufactured to suit the case; the mother has been frightened by a snake, frog, or what not, some time during her pregnancy, probably as late as the sixth, seventh, or eighth month, and this is accepted (even by some physicians, I am sorry to say), as proof, strong as Holy Writ, of maternal impressions upon the fetus in utero.

I delivered a woman, some years ago, of an anencephalus child. The grandmother, a very intelligent old lady, at once ascribed the deformity to the fact that the mother had been horrified at seeing a dog's brains knocked out by a blow from an ax about a month before delivery.

Again, should the arrest of development effect the abdominal plates, which does not necessarily interfere with the evolution of the abdominal viscera, we have the walls of the abdomen wanting and the viscera entirely uncovered, save by peritoneum, and sometimes extroverted (ectopia) viscera. This also is referred to maternal impressions, when in truth it has its origin in purely local causes, such as adhesion of the allantois to the chorion, and less frequently adhesions of the placenta and amnion. The arrest of development of the maxillary processes causes harelip. The bony parts may unite, leaving the soft parts separated (simple harelip), or arrested development of the entire structure may obtain (cleft palate, complicated harelip).

Acephalus fetus, a very common form of malformation, is now known to result from embryonic hydrocephalus, the cerebral vesicles becoming disturbed till rupture takes place. The sides and vault of the cranium, as well as the cerebral matter, are consequently not formed. As before mentioned, a fact that should be particularly borne in mind, is that if the impressions made upon the mother ever affect the fetus so as to induce deformity, this must necessarily be done at or before the precise time at which the deformed part is undergoing evolution. Thus we well know that as early as the third month the hands and feet are formed, and by the fourteenth week the abdominal plates have united at the umbilicus, the genital organs are distinct and the maxillary processes with their soft parts have united, forming the upper lip. And yet, in a case of harelip reported by Prof. Carnochan, the deformity is gravely attributed to a dentist roughly handling the

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mother's lip during the sixth month of pregnancy. In one of Dr. Tuke's cases the impression was also made during the sixth month of pregnancy, producing a red mark on the child's forehead resembling a flame.

"Cases of exstrophy of the bladder, ectopia viscera, etc., are often cited as examples of some impression made on the mother's mind as late as the fourth, fifth and even six month, when in fact, it is now positively known that the causes of this deformity, viz.: adhesions of the allantois to the chorion must be operative as early as the fourth week."

Sir J. Y. Simpson long since described intra-uterine peritonitis as a "most common fetal disease." He cites a large number of cases and says, "We may be able to trace many of the malformations of the abdominal and pelvic viscera, as well as those of different other parts of the body, to different diseased actions, but particularly to inflammation occurring in some of their structures during the early stages of their embryonic development and growth."[12]

On the other hand, birth marks of fruit, flame, etc. (aneurisms by anastomosis), are undeniably the product of an excess of evolution. "The process of evolution may be excessive as well as incomplete. When excessive in certain portions of the capillaries, these blood vessels, which are too small to be seen by the naked eye, now become so large as to carry red blood and to impart to the locality (if the skin) a corresponding degree of redness. This is the way marks are formed. An excess of evolution may also produce supernumerary fingers or other appendages."[14]

So much for arrest of development and its causes. Let us turn our attention for a short time to intra-uterine amputations, which are probably more frequently pointed out as the result of maternal impressions than any other congenital deformities. So high an authority as Seguin makes this statement: "Impressions will sometimes reach the fetus in its recess, cut off legs or arms, or inflict large flesh wounds before birth, inexplicable, as well as indisputable facts."[15] It is an uncontroverted fact that all the varieties of this deformity can be shown to depend on diseases of the membranes inclosing the fetus or its appendages. Montgomery, quoted by Simpson, as far back as 1836, believed fetal amputations to be the result of the constriction of the limb at the point of separation by a ligature of organized lymph.[13] The cases described by Schaeffer and Zagorsky appear to support strongly the opinion of Montgomery, that amputation of the limbs of the fetus is in some, if not in all instances the result of constriction by a cord or ligature thrown around the limb at the point of disjunction. As to the nature of the cords or bands which constitute the constricting ligatures, there seems no reason to doubt that they are formed of organized lymph, and that this lymph has been effused by inflammatory action. The view that has been taken of the disjunctive action, attributed in the foregoing remarks to the forcible and gradually increasing constriction of the bands of pseudo-membrane upon the fetal limbs, seems confirmed in no inconsiderable degree by what is observed to occasionally occur when the same kind of construction is exercised upon any part of the fetus by the umbilical cord.

Wrisberg has delineated and very minutely described a case which is to the point in reference to constrictions by the cord: "In a deformed fetus of the fourth month the umbilical cord, on leaving the abdomen, ran first over the left shoulder and around the back of the neck, and then came to encircle completely the right upper extremity below the shoulder. To all these different parts it was morbidly adherent, and at the point where it encircled the right arm it imbedded itself deeply in the adjacent soft parts; in its subsequent course the cord, after running again over the left shoulder, returned a second time to the right arm and crossed over it above the elbow, impressing another furrow or indentation upon it at the point of contact. In this case we have an example of the process which produces a spontaneous amputation of the limbs of the fetus going on at two different points in the same arm, and it differs from instances previously detailed in this respect only, that the constricting and dividing agent was not, as in them, a band of false membrane, but a portion of the umbilical cord."[13]

These views were recognized and maintained by Montgomery, Wrisberg, St. Hilaire and Simpson as the solution of the problem of intra-uterine amputations more than fifty years ago, since which time the literature of the subject has been greatly enlarged, until now there remains not the shadow of a doubt that these malformations are dependent upon some pathological condition of the membranes surrounding the fetus, or of the fetus itself. Very frequently nature makes an attempt at restoration, and rudimentary toes, fingers, etc., may be formed upon the amputated extremities. It is well known that this restoration is in ratio to the scale of animal life—the lower the scale the easier and more certainly this restoration is accomplished, and *vice versa;* therefore the earlier the period of embryonic life at which the amputation takes place, the more certainly will there be an effort to restore the parts.

The genises of double monsters is capable of as ready solution as that of amputations. "That they are not the results of an accidental coalition of twins at some uncertain period of the embryonic development, neither do they result from a double egg, that is to say, an egg containing two yolks inclosed in one capsule. They are invariably the product of a single ovum, with a single vitellus and vitelline membrane, upon which a double cicatricula or two primitive traces are developed. The several forms of double malformation, the degree of duplicity, the character and extent of the fusion, all result from the proximity and relative positions of the neural axis of two more or less complete primitive traces, developed on the vitelline membrane of a single ovum."[16]

This is not a theoretical opinion, it is an established fact, determined by direct and repeated observation and research instituted by different embryologists. It furnishes a satisfactory explanation of the several laws which have been discovered to preside over the development of double monsters, viz.: the law of homologous union, the law of unity of sex, and the less certainly developed law of the transposition of viscera. Homologous union and the unity of sex in duplex formations are positive laws. Twins, having a common chorion, and duplex monster have a similar origin, viz.: the development of cicatricula on the blastodermic membrane of a single ovum. The result of normal twins or double monster depends entirely upon the nearness of the two primitive traces to each other.

Geoffroy St. Hilaire long since showed that mon-

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sters could be produced artificially; and later, M. Dareste has, by various experiments, succeeded in submitting to direct observation the evolution of most of the types of simple monstrosity. "When eggs are submitted to incubation, the conditions of which differ from those of ordinary incubation, the evolution is disturbed and there appears anomalies and monstrosities." M. Dareste has employed four processes with this end: a vertical position of the eggs, diminution of the porosity of the shell by coating more or less impermeable to air, contact of the eggs with a source of heat at a point near the cicatricula but not coinciding with it; lastly, the production of temperatures slightly above or below that of normal incubation. By the first two processes the evolution is often modified; by the other two it always is. It is farther stated as one of the most general results obtained, "that monstrosities have always their origin in the period of embryonic life when their embryo is entirely formed of homogeneous blasterma."[17]

The arrest of development is the general process of the formation of simple monstrosities. It acts first directly on certain organs; then the change of these organs involves consecutively a certain number of changes in other organs; changes characterized by arrest of development, fusion of similar parts, changes of position, etc.

"The arrest of development at the commencement of evolution affects the embryo itself. It here produces the monsters inexactly known as 'omphalosities.' These, the most imperfect of all, have only an ephemeral existence when they have not been developed in the same vitellus with a well-formed embryo, the head of which serves as a motor for the circulation of the malformed embryo, which is nearly always without this organ. The formation of simple autosite monsters is through a partial or total arrest of development of the amnion or vascular area. The arrest of development of the whole of the amnion causes very various monstrosities which are sometimes produced separately, and are sometimes associated in greater or less numbers. Such are celosomia or eventration, exencephalon or cerebral hernia, and various incurvations of the vertebral column and deviations of organs. * * * The double monsters among birds never arise (as has been supposed) from the union of two vitelli originally distinct, not even from the union of two embryos proceeding from two cicatriculæ existing in one vitellus. In a double monster there are two embryos developed from a single cicatricula and enveloped by the same amnion. The existence of two hearts in double-chested monsters is due to two different causes. When the heads are distinct, each heart belongs properly to one of the embryos. On the other hand, when the heads are united together, the two halves of each heart belong to each embryo, each cardiac blastema of one of the subjects uniting with the corresponding cardiac blastema of the other." M. Dareste remarks, in conclusion, "that though his teratogenic researches have been limited to a single species, that they have a much more extensive reference. Indeed, the teratological types and processes of formation which he has cited in birds are exactly the same which are observed in mammifers and fishes. This identity of teratological formations in mammifers, birds and fishes, is a necessary consequence of the unity of type in vertebrated animals."[17]

The inferences and facts to be drawn from the foregoing review are:

a. That during the embryonic existence certain parts may be hindered or arrested in their development, while the other organs not directly connected with them may continue their evolution and become fully developed.

b. That ectopia viscera of the abdomen, spina bifida, cleft palate, hare-lip, webbed fingers and toes, etc., are only evidence of arrested development of embryonic abdominal, spinal and maxillary processes, or in the case of webbed extremities, the continuation of the embryonic hand or foot of the second month.

c. That any agency causing arrest of development of any portion of the fetus must necessarily operate prior to the evolution of the part.

d. That the cause of the arrested development may be local or general, as injuries to mother's abdomen, diseases of the uterus or its membranes, hereditary transmission of deformity.

e. That excessive development of parts of the fetus may obtain, resulting in nevi, aneurisms by anastomosis, supernumerary fingers and toes, etc.

f. That intra-uterine amputations are the result of amniotic bands, placental adhesions, fracture, or from constriction by a loop of the umbilical cord.

g. Than amninotic bands or placental adhesions result from inflammation of the uterus, its decidua, or inflammatory diseases of the fetus.

h. That the false membranes causing these amputations may be afterward absorbed, as also the amputated extremity.

i. That so-called double monsters are the result of the development of a double cicatricula on the blastodermic membrane of a single ovum.

j. That twins with a common chorion also result from the development of a double cicatricula on the blastodermic membrane of a single ovum.

k. That in either case there is always unity of sex.

l. That the nearness of the primitive traces to each other determines whether the impregnation will result in separate twins or a double monster.

m. That in twins with single chorion or anastomosis of placental vessels, one fetus may become perfectly formed while the other becomes monstrous.

n. That the development of the abnormality in such cases depends on local anatomical causes, and is governed by definite laws.

o. That every known form of malformation in the human race has its analogue in the lower animals, birds, fishes and reptiles.

p. That arrest of development at any of the stages of embryonic life results, in part or in whole, in a permanent embryo of the stage at which the arrest took place.

From the consideration of all these facts, the subject is narrowed down to the following questions, viz:

Can the mother's mind produce the diseases of the uterus or its membranes which result in false bands or placental adhesions, which cause amputations and other deformities?

Can such impressions cause the umbilical cord to encircle and amputate a limb, or cause the death of the fœtus?

Can such impressions reach and act upon the newly-impregnated ovum so as to cause the double cicatricula to approach each other so closely as to result in union and double monsters?

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Is it possible for maternal influence to destroy or deform one fœtus *in utero*, while another enclosed in the same membranes is uninjured?

A large per cent of congenital deformities being shown to arise from local and other causes which can have no connection with maternal influences, is it probable that at another time exactly the same deformity is produced by maternal impressions?

Is it reasonable that an intra-uterine amputation will be caused in one case by an amniotic band, while in another it may be caused by maternal impressions?

When it is remembered that no nervous connection exists between the embryo and the mother; that there is no distinct blood communication; that the mother's mind can have no influence in causing pathological conditions which have been shown to be the cause of the malformation; that during the first week of fetal life the ovum is surrounded by anatomical conditions precluding maternal influence; whereas it has been shown that the vast majority of malformations have their origin in that period of embryonic life in which the ovum is still homogeneous blastema. When all these facts are considered, can any one believe that the mother's mind can change the conformation of the fetus *in utero?*

"If a man choose to maintain that a fossil oyster shell, in spite of its correspondence down to the very minutest particular with that of an oyster fresh taken from the sea, was never tenanted by a living oyster, but is a mineral concretion, there is no demonstrating his error. All that can be done is to show him that by a parity of reasoning he is bound to admit that a heap of oyster shells outside a fishmonger's door may also be sports of nature, and that a mutton bone in a dust bin may have had the like origin."[28]

I have purposely refrained from occupying valuable space by the recital of cases of so-called maternal impressions.

BIBLIOGRAPHY.

[1]Embryology—Foster and Balfour.
[2]Embryology—Foster and Balfour.
[3]Evolution of Man—Ernest Haeckel.
[4]Physiology—M. Foster.
[5]Comparative Embryology—F. M. Balfour.
[6]Prof. Ercolani, of Bologna.
[7]Theory and Practice of Obstetrics—Cazeaux and Tarnier, 7th edition.
[8]Morbid Anatomy of Placenta—Whittaker.
[9]Type of Structure of Placenta—Simpson.
[10]Transactions New York State Medical Society, 1865.
[11]Evolution of Man—Hackel.
[12]Half-yearly Abstract, July, 1869—Wood.
[13]Obstetric Memoirs—Sir J. Y. Simpson.
[14]American Journal of Insanity, January, 1870—Fisher.
[15]Idiocy and its Treatment—Seguin.
[16]American Journal of Insanity—Fisher.
[17]American Journal Medical Sciences, April, 1874.
[18]Popular Science Monthly, August; 1880. Huxley.—*Amer. Prac. and News.*

Gonorrhœa in Women.

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Gonorrhœa in the female is perhaps more often met with in the field of labor of the gynecologist than in that of the venereal specialist. This would seem from *a priori* consideration a trifle paradoxical; yet if the more advanced views be correct the co-relatives of gonorrhœa and gleet in the male are most often considered by the practitioner to be of a simple and non-veneral character in the female. A knowledge of these conditions in their various phases, and a just appreciation of their relation, as regards cause and effect, to venereal infection, is absolutely indispensable to the genito-urinary surgeon, hence a presentation of the subject from a practical standpoint requires no apology.

The special consideration of the effects of "gonorrhœal" virus upon the female sexual organs is of great value, the more especially as the poison, germ, virus, or whatever term may be applied to it, is primarily generated in women. It is a peculiar fact that gonorrhœal inflammation in the female rarely presents a condition physically analogous to that observed in the male. Vaginitis of venereal origin is exceptional in women, and urethritis, the only real analogue, is excessively rare and does not often occur even when virulent vaginitis exists. The rarity of virulent vaginitis even among that numerous class from whom the male acquires the disease, is only explicable by the circumstances: (1) Of the existence in the female of latent gonorrhœal processes of a greater or less degree of virulence. (2) Of the acclimation of the vaginal mucous membrane to the toxic products of organic decomposition gradually formed in the female generative apparatus. If the proposition be accepted that the urethra of the male may become acclimated to the morbid conditions existing in the female, as often seen in the husband of a woman who is poisonous to any strange male with whom she may copulate, it must also be accepted that the vagina of the female becomes inured to the contact of the irritating products of morbid conditions of the mucous membrane higher up—in other words, becommes tolerant of auto-genetic poisons. This same tolerance explains her resistance to the disease when brought to her by contagion. (3) Of the relatively inherent toughness of the vagina, as a consequence it may serve as a vessel in which toxic materials may be elaborated without becoming itself infected by them. This inherent resistancy does not extend to the endometrium, Fallopoian tubes, and peritoneum; hence a woman may have more or less active gonorrhœal processes in these parts, while the vagina is apparently perfectly healthy.

The importance of a knowledge of the direct and remote results of gonorrhœa in women, can hardly be overestimated, and is but recently receiving its due meed of attention. Foreshadowed by the labors and once ridiculed theories of Noeggerath, the researches of modern operative gynecologists are developing most astonishing facts relative to the subject in question.*

It must be remembered in this connection that there are two ways in which the gonorrhœal virus may act in the production of morbid conditions in women, and this fact, unfortunately, seems to have been overlooked by Dr. Noeggerath and his disciples. These investigators seem to believe that those morbid results of gonorrhœa which are manifested by diseased conditions of the uterus, Fallopian tubes, parametrium and ovaries, are the results of a primary imfection derived from uncleanly intercourse. This is a one-sided view of the question, for, as a consequence of various exciting causes, the pelvic organs of the

*The best article that has yet appeared upon gonorrhœal infection in women is, in my opinion, that recently published by William Jap Sinclair, of England.

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female may become infected from various inflammatory and putrefactive processes in her own generative apparatus—not necessarily dependent upon antecedent contagion. While willing to accept in the main the doctrines of Noeggerath and his votaries, I am strenuously opposed to the idea that infection from without is the *fons origo et mali* in anything like the majority of cases. Professor Noeggerath's theory implies:

1. That nearly all individuals who have at a more or less remote period contracted gonorrhœa and have apparently been cured, are capable of imparting infection to the female. Thus men who have at some time had the disease, according to Nœggerath, infect their wives in the majority of instances.

2. That this infectiousness on the part of the male, is in many instances latent, but may possibly become perceptible by the occurrence of urethritis of a greater or less degree of severity, as a consequence of sexual intercourse.

3. That as a consequence of this latent condition of gonorrhœa in the male, there occurs a similarly latent infection of the wives of those thus affected.

4. That the majority of women who marry men who have at one time or another had gonorrhœa, become sooner or later the subjects of uterine and pelvic inflammations.

There is something very striking in these views, especially if we take into consideration the large proportion of women—particularly in large cities—who have pelvic troubles of various kinds. It is certainly peculiar that matrimony should entail upon the female so many varied, severe and annoying difficulties of the sexual organs. Faulty hygiene, improper habits and modes of living with an attendant hereditary transmission of physical defects, in consideration with sexual excess, explain these troubles to a certain extent; add to these factors that of deliberate and vicious interference with nature's processes in the performance of abortions, and we have a series of all sufficient causes for gynic disease. It must be remembered, however, that the disproportion in the frequency of occurrence of gynic disease in city-bred and in country women, is greater than could be reasonably explained by these various factors. Add the elements of prostitution and illicit intercourse, the opportunities for which are greater in cities, with their attendant facilities for the generation and transmission of infection, and the explanatory chain is complete.

Strange as it may appear, the more carefully we study pelvic diseases in women the narrower their etiological field becomes and the more frequently they are found to be dependent upon gonorrhœa. Thus, when freed from pathological and anatomical errors, pelvic inflammations are found to be dependent in the majority of cases, if not all, upon tubal disease, and tubal disease is unquestionably almost always due to gonorrhœal infection.

With regard to the frequency of gonorrhœa among the inhabitants of cities, Nœggerath said some years ago, "I do not know what the state of matters in other cities is; I did not know how we stood in New York, until I questioned the husband of every woman who came under treatment, but I believe we may apply here the dictum of Ricord that 800 men in 1000 have had gonorrhœa." He goes further and says, "I believe that I do not exaggerate when I say that gonorrhœa in 90 per cent of the cases, remains uncured. Of every hundred women who have married men formerly affected by gonorrhœa, hardly ten remain well, the others are afflicted by some of the ailments which I have attempted to describe."*

Making due allowance for exaggerations on the part of converts to the doctrines of Noeggerath, it must still be admitted that the poison of gonorrhœa may produce any or all of a series of disastrous results in the female pelvic organs. Thus there may be metritis, endometritis, salpingitis, hydro and pyosalpinx, ovaritis, parametritis, pelvic peritonitis, menstrual disorders and sterility, according to the severity of the process and the character of the structures affected. Although rare, vesical, urethral and even renal disease of an inflammatory character may occur as in the male.

It is to be remembered that, as already suggested, these results may occur as a consequence of infection of the affected structures without the contagium being necessarily hetero-genetic. The point of departure is certainly not the urethra of the male, but as far as clinical evidence and theoretical reasoning enable us to judge, must of necessity be the generative apparatus of the female. Admitting this to be true, it is an indubitable fact that any woman whose generative apparatus is capable of infecting any male with whom she may have intercourse, is also, under favorable conditions, capable of infecting any portion of her own generative tract which happens to be susceptible to the irritating effects of the autogenetic poison. Such infection may occur without any exciting cause, although in perhaps the majority of instances some special circumstance or other is necessary to the development of infectious inflammation, *e. g.*, we will suppose that a woman of uncleanly habits, easy virtue and debilitated constitution, suffers from a miscarriage, as a consequence of which her parturient canal is in a wounded condition, the same poison—which various circumstances of environment have caused to develop in her generative apparatus—that would develop urethritis in the male may obviously produce in her such inflammatory conditions as severe metritis, endometritis, salpingitis, cellulitis, pelvic peritonitis, etc., etc. It is admitted that the male may contract urethritis from women who have, as far as can be determined, no specific inflammatory condition of the generative tract, but who are uncleanly and are afflicted with ordinary catarrhal conditions of the mucous membrane, which catarrhal conditions generate an acrid discharge. Is it not reasonable to suppose that when the sexual organs of such a woman become wounded in the process of parturition, she becomes susceptible to the local effects of this same auto-genetic poison? I venture to assert that, leaving out of consideration those cases of pelvic inflammation due to septic infection at the hands of the accoucheur, the majority of cases of pelvic disease following labor, premature or normal, are due to auto-infection. There may be absolutely no lines of differentiation to be drawn between those cases in which the irritant poison is developed *de novo* in the woman and those in which it has been imparted to her through uncleanly intercourse. The results are the same.

While it is unquestionably true that many cases of urethritis in the male remain infectious for some time

*Morbid Results of Latent Gonorrhœa in the Female, 1872.

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after gonorrhœa is apparently cured, I am still of the opinion that cases in which the disease has apparently been cured for six months or more are, in the absence of stricture, non-contagious; and there are instances in which a slight stickiness of the meatus still exists in which there are no properties of contagiousness, and it is perfectly safe to advise the patient to get married. That extreme caution is necessary in this respect, I am willing to admit, and that a patient with strictures should not be allowed to marry should, in my opinion, go without the saying. I have no disposition in any sense to antagonize the views of the Noeggerath school, but I must, nevertheless, protest against the illiberality of ascribing the results of gonorrhœal infection to direct contagion in all cases, with a total disregard of the numerous morbid possibilities of auto-infection.

Gonorrhœal vaginitis is usually seen in comparatively cleanly and healthy women who have become infected with the products of virulent urethritis in the male. The younger and more cleanly the patient, the more virulent the vaginitis. It is a striking fact that vaginitis in young children is apt to be very severe. I have seen but two instances of virulent vaginitis from con tagion occurring in young female children—one in a child of ten years and the other in a child of four—both of which I was able to trace to their source. Rarely indeed, is so high a grade of inflammation seen in the adult female.

In connection with the possible infectiousness of chronic urethral disease in the male, I will again call your attention to the possibility of the transformation of the virulent process in such a manner that, although no longer capable of exciting virulent inflammation, there is formed at the site of the urethral disease toxic compounds or ptomaines which are capable of exciting in the female gynic disease of various kinds. The possibility of gonorrhœal processes in the female becoming latent is of very great importance with reference to the transmission of the disease to the male. For example, supposing that a woman has been at one time or another affected with gonorrhœa, which has become localized in the fallopian tubes; it is probable that under sexual excitement or during menstruation, a small quantity of the retained poison may be extruded into the uterus and mingling with the secretions of that organ and the vagina, eventually come in contact with the urethra of the male, exciting therein virulent urethritis. Her own mucous membranes are no longer susceptible to the irritant action of the virus because of their susceptibility having been exhausted by the primary infection. Upon examination such a woman would present no trace of virulent disease, although she would invariably be found to have been more or less pronounced uterine difficulty. A parallel case might occur in which the primary source of the disease was not from infection without. Supposing for example, as a consequence of sexual excess, filth, simple uterine inflammation, intemperance, cachexia and so on, a woman should develop the irritating poison of gonorrhœa; her own mucous membranes becoming gradually involved, the process finally disappears in other situations but localizes itself in the fallopian tube and endometrium; as a consequence of some of the exciting causes heretofore mentioned, the pent-up poison is discharged into the vagina and causes urethritis with the first unlucky male who has intercourse with her. Upon examination she too presents no evidences of disease other than ordinary endometritis, and perhaps even this in a mild degree. To go a little further in describing the morbid possibilities of this latent gonorrhœal process of the fallopian tubes, we will suppose that as a consequence of sexual excitement, traumatism, parturition, violent exercise, etc., a small quantity of this poison is discharged into the peritoneal cavity; obviously there would occur as a consequence, localized peritonitis with possible pelvic abscess. It is a striking fact that these latent gonorrhœal processes probably on account of some transformation of the virus do not usually produce general peritonitis. This disease may, however, occur as a consequence of gonorrhœa, but almost invariably as a direct result of rupture of a pelvic abscess which is in itself due to gonorrhœal infection, or of an extension of virulent vaginitis, endometritis and salpingitis.

It is probable that gonorrhœal inflammation of a chronic character may affect the glandulæ Nabothi and Bartholini; under such circumstances the woman might go on transmitting contagion of urethritis for an indefinite period of time after all visible evidences of virulent vaginitis has disappeared, this being another of those puzzling cases in which urethritis is contracted from an apparently healthy woman.

The urethra of the female is very rarely involved in virulent inflammation, this being due to its protected situation. The vulva, or, at least, the more external portions of it, not being particularly susceptible to the products of virulent inflammation, the process does not readily extend itself to the meatus; it never does so, excepting in cases of virulent vaginitis due to contagion. Whenever in the course of a vaginitis, urethritis develops with or without inflammation of the bladder it is *prima facie* evidence that the disease was primarily due to infection. This fact is due not to any peculiar property of the virus, but to the fact that the urethra is never involved, excepting in the more violent cases of inflammation, and these more violent cases of inflammation are invariably due in the female to venereal contagion.

It has been claimed by Martineau that the reaction of the secretion of vaginitis determines the diagnosis of its specific or non-specific character. He claims that the pus of specific vaginitis is always acid, while in the simple variety it is alkaline. It is to be hoped that this fallacious test may not be depended upon for the differential diagnosis, inasmuch as up to the present time no other observer has been able to con firm the opinion of Martineau.

Diphtheria.

Read before the Military Tract Medical Association, at Bushnell, Ill., October 21, 1890,

By F. W. Dimmitt, M. D., of Oneida, Ill.

Mr. President, and gentlemen of the Military Tract Medical Association:—In presenting a paper on the much discussed subject of diphtheria, I will confess at once that my motives are, to a great extent, selfish, in that I expect to gain rather than impart information; for I hope by the few remarks I make to bring about a discussion of the treatment of this dread disease, especially the malignant form, which shall be of benefit to me, and I hope to us all.

During the first eight years of my practice I encountered at intervals, a few real cases of ordinary diph-

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theria, and as all recovered, I congratulated myself on my success, thinking that diphtheria was not so serious a disease after all. I had read, however, of a type of the disease much more serious than I had yet seen, and much less amenable to treatment; still this malignant form being comparatively rare, I hoped that I might be one of the fortunate ones who are never brought into contact with it.

Without speaking of the ætiology of diphtheria or touching upon the topics of its identity with membranous laryngitis, and its relation to scarlatina, I will give a brief history of several cases occurring in my practice, which, while not all fatal, still gave me such a sense of responsibility and such a feeling of helplessness as I had never before realized or experienced.

On Sunday, February 10, 1889, I was called three miles into the country to see Selma H., aged thirteen years. The family were of Swedish nationality, and she was the third of six children. I found her in bed with a flushed face, a look expressive of suffering, pulse much accelerated, and temperature about 101° F. On examination I found the tongue moist, and slightly furred, the fauces congested and of a deep-red color, and the tonsils greatly enlarged, showing severe pharyngitis, but presenting no membranous exudation. I withheld my diagnosis, fearing I had a case of diphtheria to contend with, but still hoping that it might not be so. I prescribed a laxative, some aconite, and a mixture of potassium chlorate, tincture of iron, glycerine, and water, this last to be gargled frequently and swallowed. I saw her again the next forenoon; she was feeling much the same, had vomited several times, and had slept but little. My fears as to the nature of the disease were now realized for I discovered at this visit, several small patches of diphtheritic membrane on the tonsils and posterior buccal surface. I now ordered one-tenth grain of bichloride of mercury to be given every two hours, left off the aconite, continued the chlorine mixture, and, as she could take but little nourishment, gave alcoholic stimulants freely. I also ordered that a solution of copperas be kept continually in whatever vessels were used in the sick room, and directed that, instead of handkerchiefs small pieces of cloth should be used and be immediately burned. I also prescribed the chlorine mixture for the other children; gave them sulphur and cream of tartar in repeated doses until the bowels moved freely; ordered that they be kept out of the sick room, and allowed them to be out of doors much of the time.

The membranous patches rapidly extended and coalesced, soon covering entirely the tonsils and posterior pharynx, and extending into the posterior nares. There was a dirty looking discharge from the nostrils, which was quite acrid and excoriating, and interfered with respiration. About the fifth day, and again on the morning of the sixth day, an alarming epistaxis occurred, which was controlled with difficulty. On the fifth day, Thursday, Eddie, aged ten, and Ella, aged seven, were stricken with the disease; and the next day, Arthur, the youngest child, aged four, was severely affected, and Charlie, the oldest, about seventeen, was complaining slightly. These cases were characterized by repugnance to food; none, except the youngest, presented much membranous exudation; the pulse was soft and compressible, and not much accelerated; and there was little, or no, elevation of temperature. The condition was that of profound diphtheritic toxæmia, which overwhelmed them, and proved rapidly fatal in two of the cases. Eddie died at 9 A. M., on Friday, after eighteen hours' sickness; Arthur died at 9 P. M. of the same day, just ten hours after he was stricken; Ella, after about ten days of very severe illness recovered; the oldest son was not, at any time, severely ill, and improved rapidly; and Selma, who was the first one affected, died on Sunday, just a week from my first visit. Before her death, she expectorated several pieces of diphtheritic membrane, quite thick, and of an almost leathery consistence.

My treatment in these cases was, principally, stimulants, bichloride of mercury, internally and with an atomizer and a nutritious diet. In the case of the youngest, whose throat was most affected, I used steam inhalations with decided temporary relief.

About this time, Mrs. B., a widow, with one child, Bessie, about five years old, moved into a little house just across the road from Mr. H. The little girl had never been strong, had a congenital heart trouble, and a contracted, imperfectly developed chest.

I suppose she played more or less with the other children at their home. On March 20th I was called to see her and found her affected with unmistakable diphtheria; the next day she was so much improved that I discharged her and she recovered. After about ten days, I was called to see her again and found her sick with catarrhal pneumonia. She died in three days, having no symptoms, however, of diphtheria.

Her mother had for some time worked for the family of Mr. F., wealthy and very estimable people, and Bessie had, by her weakness and an affectionate disposition, endeared herself to them, several of whom, including a son, were with her much during her sickness. About a week after she died, the son, Oscar F., aged about 30, was taken sick at his home near Woodhull, and was attended by a physician from that place. The disease proved to be a severe type of diphtheria. I heard from him frequently, though I did not see him. After about six weeks he became convalescent and they hoped he would recover speedily. About three weeks after the inflammatory symptoms had abated, paralysis set in. I was called to see him on June 21st, eleven weeks after he was first taken sick. I found him practically helpless. The paralysis, I was told, had begun in the throat, had extended to the feet, legs, hands and arms in about the order mentioned, and, at this time, he was unable to raise himself or turn in bed. He complained of a general numbness; his voice was husky and gutteral, and there was much dysphagia, so that nutrition had been kept up, in a measure, by means of enemata. There was no evidence of faucial inflammation, the mucous membrane being somewhat paler than normal and the pharyngeal muscles were in a relaxed condition. There was absence of the patellar tendon-reflex, the sphincters were involved but little and there was no albuminuria. Dr. Reece, of Abingdon, saw him with me at this visit, and I was asked to take charge of the case.

We prescribed an extract of malt, with stimulants, and a mixture of tincture of iron, dilute phosphoric acid and glycerine. To this treatment I added in a few days Freligh's tonic, in full doses. In a couple of weeks he began to get better, and he steadily

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improved; the paralysis leaving him in the order in which it had appeared. After about two months I discharged him, at which time he could swallow well and was able to walk out a little, though it was nearly a year before he had entirely recovered.

While the cases first mentioned in this paper were sick, Oscar N., a brother of Mrs. H., was about the house at times, though he did not go in, I think from fear lest he should contract the disease. Several weeks afterward, April 11, while at Mr. H's., he was taken with diphtheria and was very sick for a week or more, after which he gradually recovered.

April 23, Anna, aged 15, the only one of Mr. H's. children who had thus far escaped the disease, was taken sick with diphtheria; and after about ten days of what I feared would be a fatal illness, recovered.

As to the cause of this outbreak I have not yet satisfied myself. At my second visit I looked about the premises and found an unused cistern, with very little water in it, not well closed at the top of the ground and situated under the kitchen floor, which was much worn and not tight. A very unwholesome odor arose from this cistern and I ordered that a quantity of lime be thrown into it, and that it be filled with fresh dirt. The cellar also contained some decaying vegetable matter which I said should be removed. This was not done at the time, and after more than two months, when the last two cases occurred, I found the cellar in a worse condition than before. It was then cleaned and whitewashed. After each outbreak of the disease the rooms were thoroughly fumigated with sulphur, and in some of them the paper was removed, new paper put on, and the ceilings whitewashed.

Inflammatory Diseases of the Bladder.

By Dr. A. J. Baxter, Astoria, Ill.*

Mr. President, Fellow Members of The Military Tract Medical Association:

Having a few cases of Inflammation of the Bladder under treatment at the time we were solicited to furnish this meeting with a paper, the idea suggested itself to take up that topic.

In calling your attention to it to-day, we will be as brief as possible, and try not to wear out your patience with lengthy anatomical and physiological descriptions and possibilities, assuming your pre-acquaintance with the fundamental principles governing those branches.

Cystitis, as we meet it in the routine of country practice, prevails in both acute and chronic forms, often merging one into the other. It being difficult, at times, to positively make out when one leaves off and the other begins. Yet we are safe in venturing the statement, that we have to contend with it much oftener in the sub-acute and chronic forms. They being liable to outbursts of an acute nature.

Mechanical injuries from within or without, in the vesical region can, and frequently do result in traumatic inflammation of the bladder. But a single cause acting alone is never productive of the condition known as Chronic Vesical Catarrh. However, should a person after the reception of an injury on a healthy bladder, be reckless and not heed the warnings of nature to be quiet and avoid straining when urinating, by degrees the membrane about the neck becomes inflammed. As a result of these changes, an excess of mucous and muco-pus are secreted, and the ammonia of the decomposing urine coming in contact with the products of this inflammation causes them to gelatinize, gradually the coats of the bladder become thickened, the nerves lose their sensibility, and then we have the malady in a chronic form—set up with a fair prospect of its continuance to the end of the patient's days—near or remote or if cured may easily be reinduced by exposure, or slight indiscretion in our mode of living.

The causative list may be increased in a multiplicity of other ways, acting directly or indirectly. Such for example as enlarged prostates, tumors, cancers, abscesses, medicines ignorantly or incautiously administered, and neighboring inflammations extending by continuity to the bladder.

Cystitis is more generally found afflicting the old and infirm, especially old men who have led fast and irregular lives. Unfortunately in most cases it is far advanced before a physician is counseled; too late to check it in its incipiency.

The symptoms vary with the progress of the disease. The straining and pain may be so light as to be hardly appreciable, and again it may be so severe as to torture the poor patient almost beyond endurance. The sight of a victim of general cystitis in its last stages, as he bears down and groans with pain at every breath, is pitiable indeed, and once seen will never be forgotten. Between these limits we may sum up the general symptoms as a frequent desire to micturate, more urgent as the disorder advances. The act is attended with more or less pain, referable to the supra-vesical region, loins, anus, perineum, urethra and particularly the end of the penis.

The urine is always abnormal. Mucous and pus, alone or admixed, are invariably found. When admixed it is of a semi-solid consistence, known as ropy mucous, which if left in the bladder any time, on being withdrawn gives off a sickening ammoniacal smell.

On inverting a vessel in which urine has stood, the gelatinized muco-pus adhering to the bottom, or reluctantly flowing out may be noticed.

The intolerance of a diseased bladder to the presence of urine, especially to foul and disorganizing urine, is what sets up the spasm and straining necessary to emptying itself. The want of tonicity and loss of contractile power causes its voidance in drops and jets.

A little more indulgence and we will give you what subserves us best in treating our cases. If the cause is known and removable the disease is curable; if not, all that can be hoped for is palliation. In the first stages of an acute case the best results are obtainable from hypodermic injections of morphia thrice daily. The pain and straining which are so prolific in setting up the chronic form are often thus prevented. Direct the patient to go to bed and remain there until privilege is given him to get up. Rectal anodyne suppositories in which belladona is incorporated give us good results. Hip baths in most cases are beneficial. Plenty of pure rain water is wholesome, lithia or vichy is better when it can be had. Stimulants of all kinds are contra-indicated, save in the extremely debilitated. Of late, salol in eight to ten grain doses four times a day is a popular remedy. We are partial to it and heartily recommend you to

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give it a trial, being satisfied it will give as good result as any single drug in the *Materia Medica.*

Rhus aromatica is another drug that must not be forgotten when we are in search of a faithful remedy. benzoic acid, hair cap moss, and a score of other medicines are good and have their uses, but those mentioned have served us best, and like old war horses whose metal have been tried, will be safe to tie to in stubborn cases. Iron and quinine are indicated in these disorders just the same as in any other disease where they are called for. So much for internal medication.

Our patient should be clad in the best of flannels the year round, for nothing conduces more to give patients back-sets than getting chilled—especially the lower extremities.

From various causes the bladder is unable to empty itself and as a result there is more or less residual urine unless a catheter is intelligently used. When there is, it behooves us to be careful at first not to empty the bladder at one sitting. For if we did we would risk inducing a state of collapse, which, if it did not prove directly fatal, might greatly injure the patient and jeopardize his chances of recovery. Instruct the sufferer how to use a catheter and have him draw off the urine with a soft rubber instrument, of the best make, as often as necessary to give him relief from the bearing down and straining consequential to the presence of urine. A bladder accustomed to half a pint or more of residual urine can by degrees soon get used to being completely empty.

When there is stringy muco-pus or the urine emits a sickening ammoniacal smell, it is necessary to wash out the bladder daily. A saturated solution of boracic acid is as good a thing as we know of for that purpose. Some prefer a five-thousandth solution of bichloride of mercury. Either used systematically, through a Nott's double catheter cannot fail to give encouraging results.

A great deal more could be said of this much-neglected disease, and further research in that line will, no doubt, bring much enlightenment to the profession as how best to prevent inflammatory diseases of the bladder, and treat them when unavoidable.

Thanking you for your kind attention we shall await your criticisms.

Multiple Neuritis.

By Archibald Church, M. D.

Professor of Mental and Nervous Diseases Chicago Policlinic.

Case 1. William A. V., aged 30, an unmarried bookkeeper of German descent, presented himself in my service at the policlinic, April 17th, 1890, complaining of numbness and weakness of both hands and of the left leg and foot. Physically he had always been in fair health, but for years had drank to great excess and had been subject to delirium tremens several times. He also used tobacco inordinately, smoking or chewing continually, and was greatly addicted to venery, but gave no history or indication of venereal infection. Two weeks previously he first noticed the numbness and weakness mentioned and coming on gradually it reached during the first week the stage shortly to be described. When first seen he was tremulous, uncertain in speech, with dilated pupils and the general manifestations of a prolonged drinking bout. At this particular time the critical illness of an uncle was making additional demands upon his strength as he was compelled to watch with him day and night and had lost much sleep. He presented an irritable pulse of one hundred and ten beats, a normal temperature, a fair digestion, an active bowel, and was moderately well nourished. His attitude when standing was natural but he walked with a decided limp, dragging the toe of the left foot which was advanced and planted on the ground in an uncertain flail-like, dangling manner, the leg muscles failing to properly act and the anterior tibial group of muscles were found completely paralyzed.

On the anterior surface of the leg there was a narrow, comparitively anæsthetic area about an inch and a half broad extending from the tibial tuberosity to the ankle. Upon the dorsum of the foot it spread out in a fan shape and embraced the four outer toes. Elsewhere on the lower extremities sensation was fairly normal to all ordinary tests. In the area described he had a subjective feeling of numbness, prickling and sometime steady pain. There was tenderness over the head of the fibula and on the dorsum of the foot. Light touches with a pencil or bit of cotton wool could not be appreciated, but sensation to painful stimulus was not appreciably impaired or the ability to note broad variations in the temperature of objects brought into contact with the skin. The weakness of the foot extensors produced well-marked foot-drop and the foot could not be voluntarily brought to a right angle with the leg. The plantar and patellar reflexes were both greatly diminished on this side. Electrical examination of the anterior tibial muscles showed that they had lost faradic excitability and only a very slight contraction could be elicited by the anodal closure of the galvanic current, thus indicating the presence of degenerative nerve changes.

In the upper extremities the grasp was greatly reduced and for the ulnar fingers almost abolished. Commencing near each elbow, over the internal humeral condyle, a markedly anæsthetic zone extended along the ulnar border of the forearm embracing exactly the distribution of the internal cutaneous nerve and in the hand the cutaneous distribution of the ulnar. This area was the seat of numbness, and of burning sensations which he described as like the feeling produced by long immersion of the parts in snow followed by exposure to warmth. Sometimes there was steady aching and again sharp pain. Over the course of the ulnar nerve marked tenderness to pressure existed. The ulnar group of forearm muscles reacted feebly to both galvanism and the faradic stimulation but anodal and cathodal contractions were equal. Such a degree of paresis was present that marked difficulty was encountered in all delicate or intricate use of the fingers such as buttoning clothing, writing, etc., and strong muscular effort with the hands was impossible. A diagnosis of alcoholic multiple neuritis was made. Discontinuance of drink was firmly insisted upon and for a few days a combination of chloral and bromide was exhibited. Later massage locally with galvanism and tonics containing a little strychnia caused a speedy physical improvement and a steady gain in the direction of the palsy though some dimination in the volume of muscles on the inner side of the forearms appeared and the left anterior tibial group became distinctly wasted. By June 20, two months after his first visit, he had practically regained the use of his hands so that he wsa

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again doing clerical work and sensation was very much improved to all tests. In the leg there was still much weakness. With the heel upon the floor in the erect position he could barely raise the toe from the ground but walked without any noticable limp. A complete and comparatively rapid recovery seemed promising when he fell to his old drinking habits and failed to attend the clinic.

Case 2. Mrs. Mary C., an American, widow of 58 years, with six healthy grown children, and who nad never had a day's illness in her life or even a headache, was attacked last April by the prevailing epidemic of influenza. The disorder ran a usual course, but was followed within a week of its subsidence by stabbing, darting, burning and severe pains in all four extremities, accompanied by great hyperæsthesia, with intense itching and scalding sensations. The condition was severest in hands and feet, and did not extend much above the elbows and knees, but peculiar sensations along the spine were described as if the patient were lying on some lumpish body, and afterward as if she had in the thorax a tumor loosely attached to the spine which floated or bumped about as she moved in bed. The attending physician treated her for some weeks and on numerous lines, but principally with rheumatism in mind. No relief was secured. The days were passed in agony and the nights in torture, which morphine did not control. At the end of two weeks the hands and feet were powerless. Subsequently the case went into the hands of Dr. A. E. Hoadley, with whom I saw the patient July 10, last. At that time the severity of the attack had passed but there was still great weakness of the hands and feet, with painful hyperæsthesia. The bedding in contact with the affected area the patient described as feeling woolly, coarse, and as if made of rushes. Her stockings felt as if made of coarsest twine, and full of knots. She was constantly rubbing and chafing her hands but in a gentle way, for any pressure or roughness was intolerable. The pricking, burning, itching sensations though lessened, were hard to endure. The bowel which had been sluggish for many years, had been thoroughly and repeatedly flushed by daily copious injections, and now small doses of morphine secured some rest at night, the first she had had for many weeks. Wrist, plantar and patellar reflexes were absent. There was tenderness over the nerves. The finger nails were roughened, scaly and marked by transverse lines. The skin about the nails and as far as the second phalangeal joints was shiny, red and atrophied. No muscular atrophy was apparent, but the legs were flabby and the forearms somewhat emaciated. Possibly not more than the prolonged confinement to bed might explain. Electrical examination was not made, as a diagnosis of muscular neuritis seemed justified without it.

The patient has steadily improved in all respects, and is now walking about the house able to be of some service to herself and her family. She still complains that her shoes seem full of nails and pebbles, and her bed of switches, but 1/8 gr. of morphine secures a fair night's rest, and the subjective troubles, as well as the paresis, certainly, though slowly, are growing less. The constipated habit of this woman is notable in this connection. She states that all her life she has been remiss in attention to her bowels, often allowing a week, ten days, or even a fortnight to go by without securing a passage or even attempting it. This condition may have played an important part, possibly, in the etiology of the neuritis, as it could furnish a general auto-injection, or, if you will permit the expression, an auto-sewer gas poisoning; but in accordance with the opinion of American and foreign observers who have reported similar sequellæ of the grippe, I am inclined to assign a casual relation to the influenza.

Case 3. James M., a married Irish teamster, 50 years of age, presenting no family or personal history of any interest in this connection, was taken with the grippe Jan. 10, of this year, and was moderately ill with it for a few days. He went back to his work as teamster for a grocery house, feeling comparatively well. On the 18th of January he felt a weakness and stiffness in the left calf, which was worse on the following day. On the third day the other leg was affected, and two days afterward he could not stand at all. Weakness in hands and arms promptly appeared, so that he could not use his knife and fork, dress himself, or exercise any considerable muscular force. The face, tongue and head were in no wise affected, or the control over the bladder and rectum. For another ten days he gradually grew worse, but since that time has steadily improved. There was considerable tenderness in the extremities, but no great pain and no subjective disagreeable sensation whatever. In June, at the request of Dr. D. J. Doherty, I first saw him and found that the disease was retreating. He could stand fairly well, and with the aid of two canes, could walk in a very feeble, uncertain way from one chair to another. The knee jerks, wrist and plantar reflexes were much diminished, but undoubtedly present. There was some tenderness over the affected muscle groups and affected nerves, with tendency to wrist and foot drop. The hands showed diminished power, and the right hand and left foot were most affected. Later, repeated electrical examination showed diminished reaction to both forms of current, but no inversion of the galvanic formula, there is perceptible shrinking of the flexor group of muscles on the right forearm and of the dorsal interossii of the right hand, and of the anterior tibial group of the left leg. He is steadily gaining in every particular, and the outlook is good for complete recovery within ten months. He has had such rubbing and massage as he could give himself with the help of his family, and plenty of faradic electricity also applied by himself. In this case a prolonged search for every source of infection has been negative in results unless la grippe, which preceded its outbreak, be assigned as the cause, and this, I am inclined to believe is the fact.

Case 4. Mr. S., an unmarried merchant of 31 years, was referred to me March 31, 1890, by Dr. Ferdinand Henrotin. Two months previously he had for a day or two felt a "queer bruised sensation" in the left thumb, which passed away. Shortly afterward he spent several weeks in Mexico, where he had a number of "chilly, creepy nights" and could not keep warm with any amount of clothing, and these feelings had occurred off and on up to date. A month before, after getting slightly chilled, there was numbness in the fingers of both hands, which has persisted and spread up the palms, more noticeably on the left side. This strange feeling was intensified by rubbing, by cold and by heat, and is described as the sensation produced by sharp clapping of the hands. Objectively

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sensation was not impaired, but he found his fingers were clumsy and that he could not button his collar or cuffs without extreme difficulty, manoeuvers which require at once much dexterity and some strength when the linen is stiffly laundered. In every other respect the patient seemed to be in perfect health, and there was not the slightest indication of any infection, chemical or otherwise. Malaria was suspected, but persistent and careful exhibition of quinine in full doses produced no effect. Electricity and massage gave no improvement. The peculiar sensations, however, gradually grew less. In August they still persisted to a slight extent. At this time a number of doses of salacin were given for a furuncular outbreak and in forty-eight hours the nerve trouble disappeared and has not returned up to this writing. It is therefore possible that a rheumatic condition furnished the background for the very mild neuritis.

Another case might be given in which a sciatic neuritis followed typhoid fever, and still another in the person of a well-known Chicago surgeon, in which there was implication of the musculo-spiral, probably due to a pharyngeal abscess which had produced well marked systemic infection. Such instances, however, fall under the observation of all.

The clinical recognition of the fact that certain palsies are due to alcohol, lead and diphtheria, is of sufficient antiquity, but a knowledge of the anatomy of these conditions is quite recent and constitutes one of the notable advances in modern neurology. Under the generic term, "multiple neuritis," have been grouped many forms of paralysis and neurotic derangement formerly most variously distributed, for if a spinal nerve be injured by traumatism or inflammation, such injury will be manifested almost solely by variations in its functional activity correlative to the amount, extent and nature of the morbid condition and furnishing the widest variety of symptoms. In default of certain knowledge concerning such processes, these symptoms quite naturally were variously interpreted by different observers with plenty of resulting confusion.

The ability of peripheral nerves to resist the extension of inflammation by contiguity must have attracted the attention of every one who has seen the lumbar plexus dissected by a psoas abscess, but on the other hand they are peculiarly susceptible to certain toxic and infectious agents which determine in them varying grades, and possibly kinds, of inflammatory action, with a tendency to spread centrifugally along their trajectory to the ultimate filaments. Upon examining nerves so implicated they will be found affected in two general ways. Either the phlogistic activity will be mainly confined to the proper nerve elements, the axis cylinder and the medullary sheath, or it will be interstitial, involving the endo and perineurium, yet all variations between and embracing these extremes are to be encountered. Now, as spinal nerves are motor and sensory, it results that variations between complete abolition of both these functions and the slightest impairment of either may result from a neuritis. But they also contain vaso motor filaments, interference with the function of which gives rise to circulatory and trophic disturbances of greater or less importance. Consequently, among the symptoms of this disease, as well remarked by Buzzard, in his Harveian Lecture on this subject, pain is sometimes present and sometimes absent, numbness may be slightly or strongly pronounced, muscular atrophy, which is sometimes conspicuous, may be entirely wanting, while the result of electrical examination may vary to a remarkable extent." Impairment of motion or muscular power, however, is in some degree always present. This may be accounted for on the ground that motion requires a more complicated nervous action than sensation, upon which indeed it mainly depends. In the lower orders of animal life sensation precedes motion, and throughout the nervous system as in other fields, the higher and more complicated or widely differentiated the function or apparatus the more is it susceptible to derangement.

Formerly cases of multiple neuritis, when not attributable to alcohol, lead, diphtheria, gout or rheumatism, were thought to be of spinal origin, and described as acute ascending myelitis. In 1864 Dusmenil described a case of paralysis presenting lesions of the peripheral nerves upon post-mortem examination, and two years later a second similar instance. The next mention was made by Eichorst in 1876, followed by Joffroy in 1879, Leyden in 1880, Grainger Stewart in 1881, and in 1884 the accumulated information in regard to this condition was ably set forth by Buzzard in the Harveian Lecture already mentioned.

The lesions are confined mainly to the ramifications of the nerves and as a rule are more pronounced the further they are removed from the central apparatus. There is a well defined tendency to symmetry so that both upper or both lower extremities are affected in the same manner. Rarely, and only in cases of long standing, indications of extension to the spinal cord are found. Wherever the affected nerve trunks are superficial or turn about bones, they present an intensification of the process which explains these painful points. As before indicated, the inflammation has a centrifugal tendency, following the nerve to its ultimate distribution and even destroying the terminal muscle plaques and sensory end organs in severe cases with resulting atrophy of the parts to which they pertain. Practically and histologically the lesion, irrespective of the initial cause, does not vary in any material particular from the degeneration caused by nerve division, and in the progress of the disease regeneration takes an exactly similar course to that presented by divided nerves reunited after the occurrence of degenerative changes, that is to say repair proceeds from above downward. Obersteiner and Gombault, however, insist that the degeneration due to lead and similar poisoning differs from the traumatic sort in the persistence of the axis cylinder in the peripheral segment.

The causes of multiple neuritis are legion. They are divided by Starr into four groups:

First:—Toxic agents, including lead, alcohol, arsenic, bisulphide of carbon and illuminating gas to which perhaps phosphorus may be added.

Second:—Infectious agents such as produce diphtheria, variola, typhus, typhoid, malaria, syphilis, and tuberculosis, and I would include the infection of epidemic influenza and septicæmia in its broadest sense.

Third:—An epidemic influenza in many tropical countries causing an outbreak of muliple neuritis such as is termed Kakke in Japan, and beri-beri in India and Brazil.

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Fourth:—Cases are attributed with more or less plausability to gout, rheumatism, exposure to cold, overexertion, while in some cases no cause can be assigned.

From these brief considerations it is to be readily seen that this disease may present many different clinical aspects. The most diverse symptoms are encountered in as much as any function, loss of function or perversion of function attributable to spinal nerves may be the leading feature of an individul case. Subjectively the sensory symptoms, which are usually a pronounced feature, vary from slight numbness or strangeness of feeling to the most exquisite hyperæsthesia or rarely absolute anæsthesia. Ordinarily certain cases will be anæsthetic to touch but extremely painful, the anæsthesia dolorosa of the pedantic. Sensations of pins and needles, creeping, crawling, burning, tingling and pains of a tearing, boring, twisting, even lightning like character are the burden of the patients incessant complaints. The hands and feet may become so sensitive that the weight of clothing, the contact of the hand or even a breath of air cannot be tolerated. Over the affected nerves there is tenderness to pressure almost invariably and this is greatest where the nerve trunk is readily accessible. There is often blunting of the ability to recognize temperatures in the affected parts, to locate tactile impressions or to distinguish degrees of pressure. The reflexes subserved by the nerves in question are greatly diminished, or more usually make complete default, and this condition of even the knee jerk in diphtheritic palsy of the ordinary pharyngeal form is a diagnostic sign of great importance. Where the condition is due to alcohol and rarely to other causes a peculiar mental state is noticed in which the moral sense is notably perverted. Such patients will detail with great minuteness long experiences which are absurd and impossible upon their face and their statements in regard to their own condition are quite unreliable. As the great rule the distribution of the affection is strangely and remarkably symetrical, usually involving the lower extremeties below the knees and the upper extremities below the elbows. Though no nerve is exempt, the musculo-spiral in the arm and the anterior tibial in the leg are usually selected causing wrist-drop and foot-drop by the motor paralysis which is one of the primary and most constant as well as the most important symptoms. The development of paralysis may extend over a period of two or three days, or as many months, usually commencing with feebleness in the legs and calves, followed shortly by implication of the upper extremities and attended by some or all of the sensory disturbances just mentioned. When the respiratory nerves are involved it constitutes a grave feature and may rapidly lead to a lethal termination. Depending upon the severity of the attack and the rapidity of its onset trophic disturbances sooner or later appear. In the area of distribution of the affected nerves there may be profuse sweating producing a miliary or even bullous eruption, and a macerated condition of the integument.

The dystrophy is manifest in dryness of the skin with cuticular desquamation, falling of hairs and roughness or even shedding of the nails. The fingers may present the peculiar erythematous glossy skin characteristic of nerve injury, and mottling with flushing and alternating great paleness of the parts is frequently noticed. The muscles are often flabby and plainly wasted. In uncomplicated cases the sphincters are never affected. Electrical examination may develop the reaction of degeneration, but ordinarily something short of the typical formula is found, and only the slightest modifications, or none at all, may be detected in very mild cases.

Depending upon the severity of the individual case, its cause and the possibility of removing the cause, the course of the disease is from three to twenty months, and except nerves of vital importance be implicated, almost always terminates in recovery, which is usually preceded by a recurrence of the sensory disturbances as the nerves regenerate. In the later stages massage, douching and electrical exercise of the muscles, to maintain nourishment and activity and to prevent spastic or position deformity, are all of great value, but must be employed with intelligence and moderation.

It is probable that further study of this interesting but wide group of diseased conditions will result in establishing differential features of importance in classification, prognosis and treatment.

167 Dearborn Street.

A Plea For the Lung.*

By Wm. L. Axford M. D. Chicago.

Fellow of the Chicago Academy of Medicine.

The outcome of the recent sensational fight in Clark street, between two members of the "tough" element seems to the writer to furnish material for a surgical parallel which may not be altogether valueless. Connorton, at the very opening of hostilities succeeded in lodging a bullet in the chest of his opponent, producing a gun-shot wound of the lung. The weapon of Haggerty would not explode, and, wounded as he was, he gave chase, following his enemy about the street from place to place for a considerable period of time, finally perforating the cavity of the abdomen with a bullet from his faithless revolver, then walked some distance to a doctor's office, walked upstairs, and was finally conveyed to a hospital several miles distant, sitting up in a patrol wagon. During all this time the blood was thrown from the external wound with each respiration, while the pleural cavity was at the same time receiving its share from the wounded lung. Had two men received such wounds twenty-five years ago, the one with the gun-shot wound of the chest would have been much more liable to recover; but in the light of modern surgery, and particularly modern abdominal surgery, the gun-shot wound of the abdomen is survived, while the man with the chest wound dies in a few days.

This paper is not intended as a criticism on the treatment adopted by the surgeons in either case, for in each case they are well known and capable men and pursued the methods now in vogue; but it is written with the view of inquiring whether in such cases all surgeons do not pay too little attention to the lung, and too much, relatively, to the abdomen, blinded, so as to speak, by the brilliancy of modern abdominal surgery. Connorton received a wound which penetrated the abdominal wall and passed through both walls of the stomach. His abdomen

*Read before the Chicago Academy of Medicine.

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was opened as soon as possible, the wounds in the stomach securely closed, the bullet searched for, the cavity in the abdomen thoroughly cleansed and closed, whether with or without drainage, I do not know. He recovered. We have in this case a serous cavity containing various organs more or less vascular and movable, some containing septic matter. We have learned that the safest thing to do in case such organs are wounded or supposed to be wounded is to open the abdomen and, if necessary, to proceed as was done in this case. And why? The dangers are from hemorrage from injured vessels and sepsis from extravasation of the contents of torn viscera. These dangers are met by this plan of immediate operation, and excellent results are secured.

Haggerty received a wound which fractured the second rib, traversed the upper lobe of the right lung, cutting off on its way a branch of the pulmonary artery as large as a slate pencil, and finally lodged in the body of the fourth dorsal vertebra. We know what exertions he made after receiving his wound, while Connorton at once collapsed, or nearly did so. Haggerty was taken to the hospital and an expectant course of treatment pursued. As may often be expected, he died. We have in this case, also, a serous cavity containing a vascular and movable viscus, the lung penetrated by a bullet. The dangers are also hæmorrhage and sepsis from decomposing blood and serum which is poured out into the pleural cavity unable to escape, and thoroughly mixed with air which has been pumped in through the bullet hole by the motion of the chest. Are not the indications exactly the same in each case? The serous cavity, the hæmorrhage from the wounded vessels, the subsequent sepsis from blood that must usually putrefy! In this case there were found post-mortem one and one-half litres, about three pints of decomposing blood in the pleural cavity. Why, then, neglect the lung and expect it to care for itself while giving every chance to the abdomen? We cannot tie a vessel in the substance of the lung handily, but we can by a free incision, as for empyema, cause the lung in most cases, to collapse and thus arrest functional movements and in all probability the hæmorrhage. I do not claim this proposition as original, but I do not know of its being practised for such purposes. Some years ago Dr. Cayley, of London, proposed such an incision for producing collapse in intractable bleeding in tubercular cases. There is every reason to believe that in Haggerty's case the bleeding was continuous, since there was no clot in the cut artery at the time of death. Of course adhesions from old pleurisres would in some extent interfere with complete collapse, and I firmly believe that had such a procedure been adopted in this case that the hæmorrhage would have been controlled. We can scarcely expect a clot to form in an artery as large as a slate pencil, constantly disturbed by the motion of the chest. The pathologist says that the two lower lobes were collapsed, but this seems to have been the mechanical result of the gradual accumulation of blood in the pleural cavity. At any rate, we may be sure that in the majority of cases where the lung has been wounded by bullets or in any way so perforated as to cause danger to life from hæmorrhage, we will best secure hæmostasis by the free incision of the chest wall and the functional rest that must follow. I do not think that it would be bad surgery, in case we found that an adhesion prevented entire collapse, to introduce a steel sound and attempt to break up the adhesion. Indeed, I cannot see any objection to making more than one incision, say one higher up, if necessary, if anything could be gained thereby.

We have now to consider the question of sepsis, and how this danger may be best avoided. The pathologist informs me that in Haggerty's case the blood in the pleural cavity was already dark, fluid, and as he believes, iundergoing decomposition. The question of sepsis n this case, then, was simply one of time. But our free incision would have eliminated all such danger. Where there is no albuminous fluid to putrefy there will be no sepsis. The chest could in the large majority of cases be thoroughly washed out from above downward by simply enlarging the wound of entrance, and, free drainage having been provided for, we now have our serous-lined pleural cavity in as promising a condition as is the peritoneal cavity after its toilet. Such modifications of the incision as may be deemed necessary for free drainage can be made, drainage tubes inserted, and an antiseptic dressing of generous proportions would complete the operation. The use of hot water to prevent shock or restore the patient, might here be practised when washing out the chest.

Finally: It seems to the writer that we have, in the case of gun-shot wounds of the lung, a condition closely analgous to similar wounds of the abdomen; we have the same dangers to meet and overcome, modified merely by pecularity; our means of meeting the sedangers are more direct in the case of the abdominal wound than in the pulmonary, but, nevertheless, we have such means in the free incision and drainage as above proposed, therefore we are, from a surgical standpoint, justified in employing this proedure, and it is the firm belief of the writer that, if used, we may look forward hopefully to the result, and that the prognosis in such cases will be much bettered thereby.

I wish to express my thanks to Dr. Hektoen for assistance rendered me in this work. From him I received the facts in the case of Haggerty.

70 Monroe Street.

The Review of Insanity and Nervous Disease.

A now candidate for professional favor in the field of medical literature made its appearance in August, under the title of "The Review of Insanity and Nervous Disease," edited by Dr. J. H. McBride, the well known superintendent of the Milwaukee Sanitarium, aided by associate editors in different cities.

Notwithstanding the Doctor's modest disclaimer, we predict that if subsequent numbers approximate the value of the initial number, it will "fill a long-felt want," inasmuch as it is the only journal dedicated to the specialty of nervous ailments devoted to the collection, preservation and presentation to the profession, under one cover, of all that is practical and valuable amid the vast amount of information incessantly poured from the medical press all over the world.

The editor, assisted by able translators, culls from the hundreds of journals published in the leading languages, all that is practical, instructive and worthy of being saved, and is thus enabled to spread a quarterly feast before the busy practitioners, not only in

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the specialty of nervous diseases, but of general medicine as well.

That Dr. McBride's efforts to thus place before the profession, under appropriate headings, a compend of the current literature of neurology and psychiatry, will be welcomed and prized, is certain.

The Review is a quarterly of over 100 pages, and the paper, presswork, etc., a credit to the printers.

It has apparently come to stay, and deserves, and will no doubt receive, a wide circulation.

Agents: W. T. Keener, 96 Washington street, Chicago; B. Westermann & Co., 812 Broadway, N. Y.

S. B. B.

Hot-Water Remedies.

Headache almost always yields to the simultaneous application of hot water to the feet and back of the neck.

A towel folded, dipped in hot water, wrung out rapidly and applied to the stomach acts like magic in cases of colic.

There is nothing that so promptly cuts short congestion of the lungs, sore throat or rheumatism as hot when applied promptly and thoroughly.

A towel folded several times and dipped in hot water and quickly wrung and applied over the toothache or neuralgia will generally afford prompt relief.

A strip of flannel or napkin folded lengthwise and dipped in hot water and wrung out and then applied round the neck of a child that has the croup will usually bring relief in ten minutes.

Hot water taken freely half an hour before bed-time is the best cathartic possible in the case of constipation, while it has a most soothing effect upon the stomach and bowels. This treatment, continued a few months, with proper attention to diet, will cure any curable case of dyspepsia.—*Hall's Journal of Health.*

Items.

Under the new tariff all foreign medical books not in English are admitted free.

Medical World reports the case of a woman, seventy-one years old, who gave birth to a healthy and well-developed boy.

About one hundred thousand patients were treated at the Vanderbilt Dispensary, New York, and the entire number of patients treated gratuitously in New York City, during the last year, is said to be over half a million.

Salol is not as harmless as has been supposed. The New York Medical Journal says: Dr. Hesselbach reports, in the *Fortschritte der Medicin*, the case of a young man suffering from rheumatism, who took by mistake two drachms of salol. Coma resulted, with great dryness of the tongue, anuria, and death on the second day.

Surgeon Parke, who accompanied Stanley's Emin Pasha relief expedition, states in regard to the value of vaccination that before the expedition started, the majority of the men were vaccinated by the doctor. An epidemic of small-pox broke out, while in the wilds of Africa, and only four of the vaccinated men were attached by the disease, none dying, while those who had not been vaccinated took the disease its most virulent form, and died in great numbers.

Funny Paragraphs.

Citizen—"Did the amputation do the man any good?"

Doctor—"Oh, no! but it was a beautiful operation."—*Puck.*

"Dr. Chloral lives in your ward, dosen't he?" asked Allcreme of Skimmins. "Yes," was the reply, "he's one of our ward healers."—*Pittsburg Chronicle*

Walker—"Good gracious, Wentman, how you have changed—only a ghost of your former self. What have you been doing?" Wentman—"Following out the 'health hints' in the newspapers."—*American Grocer.*

Druggist.—"I don't see why we should be expected to sell postage stamps. They are not in our line."

Brown.—"Of course they are not. When you run out of them you cannot sell anything else as a substitute.—*Lippincott's Magazine.*

"Were you wounded in the Crimea, Pat?"

"No, yer honor; the bullet hit me in the chist and kem out at me back."

"Why, Pat, that would have gone right through your heart."

"Och, faix, me heart was in me mouth."—*Ex.*

Tom—Queer fellow, that Jimson; he has no head for business, and he dosen't seem to know it.

Jack—That's so. He has failed in everything he has tried—with one exception.

Tom—What is that?

Jack—As an editor—He is the successful editor of the *Business World.—Light.*

Patient—Great Heaven, Young man, that's pretty strong medicine!

Young Doctor—Yes, it's very powerful! Sometimes it cures and sometimes it kills.

Patient—Well—I say—here, young man, is there any danger in my case?

Young Doctor—I can't tell for an hour yet, Mr. Moneybags. Now calm yourself.—*Judge.*

"Is the doctor in?" asked a tramp at the door of an Arch street physician yesterday.

A few minutes later an oldish female came to the door.

"I jist wanted to see if the doctor wouldn't give me a pair of his old pants," said the tramp.

"I'm the doctor," replied the lady.

The tramp had several attacks of vertigo as he dropped down the steps.—*Philadelphia Record.*

READING FOR PROFIT.—"I am sorry to see you neglecting your business this way, Smith. They say you that don't spend half an hour a day at your office."

"Well, a fellow must look after his health, you know."

"Yes; but you don't look sick. What is the matter with you?"

"My wife takes the *Family Health Gazette*, and she makes out that I have a tendency to softening of the brain, with complicated symptoms of Bright's disease, liver complaint, dyspepsia, palpitation of the heart, inflammation of the bunions, cremation of the spleen, indiguation of the œsophagus, hypertrophy of the palate, and besides, that I am not at all well. She insists that I must observe all the health rules in the *Gazette*, and you see I've no time for anything else.—*Ex.*

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Society Proceedings.

Chicago Medical Society.

Dr. F. Billings.....*President.*
Dr. J. C. Hoag.....*Secretary.*
Pub. Com.—E. F. Doering, W. T. Thackeray, Jno. A. Robinson.

REGULAR MEETING.

Chicago, Oct. 6, 1890.

The President, Dr. F. Billings, in the Chair.

Dr. F. E. Waxham read a *Report of 300 Cases of Intubation of the Larynx Including a Successful Case in an Adult with Exhibition of Improved Instruments.*

Through the courtesy and co-operation of the profession of this city, it has been possible for me to gain an exceptional experience in the operative treatment of diphtheria. This indebtedness to the profession, without which it would have been impossible to have acquired that experience which is essential to the highest success, I desire to acknowledge, and to repay in a measure by reporting all cases coming under my observation.

The entire number of cases operated upon has been 300, the recoveries 105 and the per centage 35.

There have been under 1 yr. of age	10 cases	with 3 recoveries	or 30.00	per cent.
Between 1 and 2 yrs.	40 "	" 9 "	" 22.50	" "
" 2 and 3 "	49 "	" 11 "	" 22.48	" "
" 3 and 4 "	49 "	" 18 "	" 36.73	" "
" 4 and 5 "	60 "	" 24 "	" 40.00	" "
" 5 and 6 "	27 "	" 14 "	" 51.85	" "
" 6 and 7 "	21 "	" 7 "	" 33.33	" "
" 7 and 8 "	22 "	" 10 "	" 45.45	" "
" 8 and 9 "	7 "	" 4 "	" 57.14	" "
" 9 and 10 "	6 "	" 3 "	" 50.00	" "
" 10 and 11 "	3 "	" 1 "	" 33.43	" "
At 12 yrs.	2 "	" 0 "	" 00.00	" "
" 13 "	1 "	" 0 "	" 00.00	" "
" 14 "	1 "	" 0 "	" 00.00	" "
" 20 "	1 "	" 0 "	" 00.00	" "
" 42 "	1 "	" 1 "	"100.00	" "
Total	300	105	35	

The youngest patient operated upon was an infant of five months. The youngest to recover were two of nine months and one of ten months.

Ninety-nine cases were *under* the age of 3 years with 23 recoveries or 23.23 per cent.

Two hundred and one cases were over 3 years with 77 recoveries or 38.30 per cent.

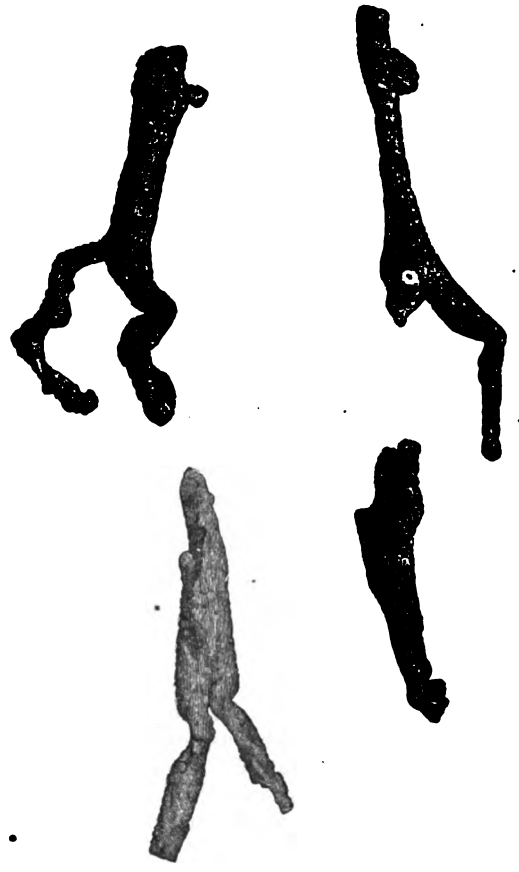
In the first 100 cases there were 27 recoveries.
In the second 100 there were 34 "
In the third 100 " " 44 "

This report includes all cases coming under my care. A great many might very properly be excluded where on account of the malignancy of the disease no hope was entertained of saving the patient's life and where the operation was performed for enthenasia alone.

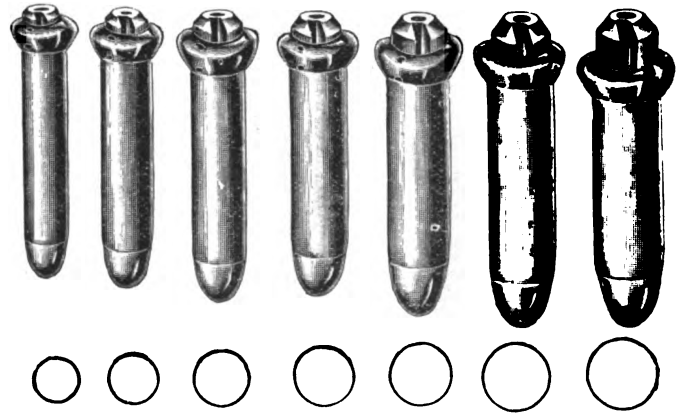
The greatest preventable danger following the operation, is from detachment of membrane below the tube, and for this reason the patient should be carefully watched and the physician ever on the alert to detect signs of danger. The hoarse or squeaking cough or the flapping of membrane below the tube are indications of danger that should never be passed unheeded.

The tube under the circumstances should be at once removed when the offending membrane will generally be expelled. In this manner casts of the whole trachea and even of the larger bronchial tubes may be obtained, of which these specimens are a few examples. (Fig. 1).

It occasionally happens, however, that the membrane while loosened is still so adherent that it resists every exertion of the patient at expulsion. To meet



this emergency forceps and various other instruments have been devised for the purpose of withdrawing the membrane. While with these instruments we are occasionally successful, yet generally the attempt to grasp the membrane results in failure. To meet this



dangerous emergency Dr. O. Dwyer, to whom I am under the greatest obligation, and in whose footsteps I gladly follow, has devised a new set of tubes which I take great pleasure in presenting to you. (Fig. 2). You will observe that these tubes are short and round without the bulging shoulder to hold them in position, and with a caliber much greater than the ordinary tube. (Fig. 2).

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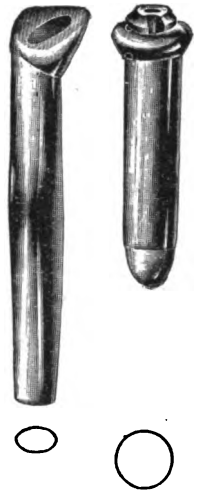
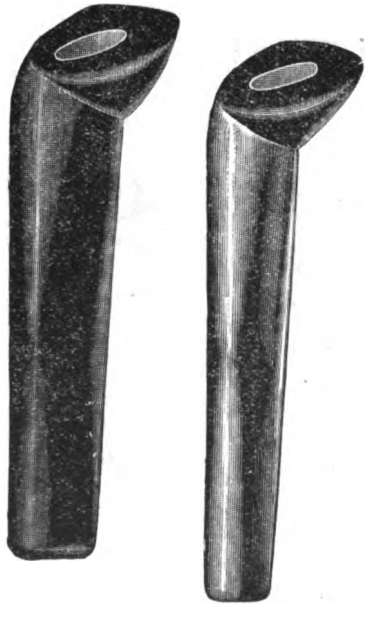
Through these tubes it is possible for membrane to be expelled when it becomes detached without danger of occlusion. On account of the round shape and the great diameter of these tubes they are not designed for continuous use, but simply for the purpose of meeting this one emergency. When the membrane has been expelled they should be removed and the ordinary tube reintroduced in order to avoid permanent injury to the vocal cords by severe and continued pressure.



The advantages of these tubes are very well illustrated in the following case:

Sept. 22d, 1890, I was called by Dr. Chas. E. Caldwell to see a patient 4 years of age, and was requested to come immediately as the child could live but a short time. Upon arriving, the little patient was found unconscious and moribund. The operation was performed as the child lay upon the bed and without resistance. This tube, (Fig. 3), being introduced, artificial respiration was performed until consciousness returned, when considerable softened membrane and muco-pus were expelled and the child was left feeling perfectly comfortable. In the evening of the same day the occurrence of a hoarse, squeaking cough indicated the presence of membrane partially detached below the tube. The tube was removed and this cast of the upper trachea expelled. As the respiration was still very much embarrassed the tube was reintroduced and the patient was again left in comfort and



passed a quiet night. The next day the child was found sitting in a rocking-chair and apparently suffering but little inconvenience. By the evening of the next day however, the membrance had reformed and extended downward. The hoarse, squeaking cough, and the "chucking" of membrane against the lower end of the tube upon coughing, very clearly indicated partial obstruction. The tube was removed but the most violent efforts of the child failed to expel the membrane. It was partially detached but still sufficiently adherent to the mucous membrane to resist all attempts of the child at expulsion. So much obstruction was now present in the trachea from the partially detached membrane that the respiration was greatly impeded, and the patient was rapidly becoming cyanotic. The tube was again reintroduced in the hope that it would entirely detach the membrane, but it was now impossible for the child to breathe at all through it, so great was the obstruction. The tube was quickly removed and still the membrane was not expelled. One of these large tubes, (Fig. 4), was now introduced when the respiration was greatly improved, and within half an hour this membraneous cast, (Fig. 5), was expelled through it, which you will observe is a perfect cast of the whole trachea and the

larger bronchial tubes. With the expulsion of this membrane the child became perfectly comfortable again, and the large tube was removed and the ordinary tube reintroduced.

Membranous croup is so rare a disease in the adult and recovery from it so unusual, that I hope I may be pardoned for still further trespassing upon your time by reporting a case that is interesting in many of its details, being the fourth patient that I had the pleasure of operating upon in the same family, with three recoveries.

The brother of this patient had croup when six years old, and came very near dying with it. February 25, 1890, I was called through the courtesy of Drs. Earle and Herrick, to operate upon a son of this brother, a boy of seven years. The boy after wearing the tube for three weeks, made a good recovery. March 18, I was again called by Drs. Earle and Herrick to operate upon the brother of this last case, a boy of three years, who was nearly asphyxiated from laryngeal obstruction. This boy was obliged to wear the tube three weeks before he could breathe without it, but made a good recovery. On April 22, I was

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still again called by Drs. Earle and Herrick, to operate upon the baby in the same family, an infant of five months. The baby was apparently beyond all hope of recovery, and although greatly relieved, died of exhaustion a few hours later.

The man whose history I am to record helped his brother care for all these cases during their sickness. All were mild diphtheritic cases, with laryngeal invasion. The mother and another child in the family had moderately severe attacks of pharyngeal diphtheria, but recovered without laryngeal complications. The history of the whole family, especially on the father's side, shows a hereditary tendency to laryngeal disease. The baby was operated upon April 22, but it was not until August 28, that I was called through the kindness of Dr. Herrick, to operate upon the uncle, S. T., German, single, age 42 years. He was found bathed in perspiration on account of the laborious respiration; the cough was croupy, the voice whispering, the pulse rapid and feeble and temperature 101. No laryngoscopic examination was made at this time, as proper instruments were not at hand.

It was learned that the man had been coughing considerably, and the voice somewhat hoarse ever since he had taken care of the children, but he had had no difficulty in breathing. Lately he had been drinking hard and had suffered from exposure as well as from the effects of drink. The night before I was called he commenced to breathe with difficulty, and the dyspnœa had gradually increased. A medium size adult tube (Fig. 6) was introduced with some little difficulty. The low situation of the larynx together with spasm of the glottis, contributing to increase the difficulty. Prompt and entire relief followed the introduction of the tube and the patient was left breathing easily, and expressed himself as comfortable; feeling no pain or inconvenience from the presence of the tube. During the night the tube was expelled but the patient remained comparatively comfortable until 5 o'clock the next day, when it again became necessary to operate upon him. A careful laryngoscopic examination was previously made both by Dr. Herrick and myself. The upper part of larynx was entirely free from œdematous swelling, and of diphtheritic membrane, but seemed inflamed and increased in redness. Pharynx and tonsils normal, with no evidence of diphtheria.

The left side of the glottis presented a swollen appearance, while the right side showed very clearly a ragged, reddish white membrane. Membrane was also seen below the glottis. This membrane, together with the sub-mucous swelling, almost occluded the glottis. A somewhat larger tube was introduced, and following its introduction considerable mucus and small shreds of membrane were expelled. The patient was now sent to the Chicago Charity Hospital, and was again seen on the 30th. He had ejected the tube and the respiration was again becoming very labored. A laryngoscopic examination revealed the same appearance as before noted. The tube was again introduced and was again ejected on the 31st. The difficult respiration required its prompt reintroduction. It was still again ejected, but the patient was able to breathe in comparative comfort until the evening of September 3. During this time he had considerable pain upon swallowing, even more than while wearing the tube. A small diphtheritic patch now appeared upon the left side of pharynx, the first seen above the glottis.

Upon laryngoscopic examination membrane was still to be seen covering right vocal band and extending downward, while the left side was still considerably swollen, leaving but a very small opening through which to carry on respiration. Dr. T. M. Hardie also made a laryngoscopic examination and confirmed the diagnosis. On account of the increasing dysnœa a still larger tube than had been previously worn was introduced with no little difficulty, and was worn continuously for seven days. September 4. Left hos- left hospital and went home with tube "*in situ*."

In the evening of same day he was found with temperature 104, pulse 208, and respiration 28. Small diphtheritic patch on left tonsil, and a long narrow strip on the posterior wall of pharynx. Prescribed antipyrin gr. xv. and morphia sulph. gr. 1/8, as required for fever and restlessness.

Sept. 5. Temperature 102, pulse 108, respiration 24. Expectorating considerable muco-pus and softened membrane tinged with blood. Diphtheritic patch still visible on the posterior wall of the pharynx. Feels better, swallows well, and has no pain from the tube. Sept. 6, 11 A. M. Temberature 101, pulse 80, respiration 20. Slept well during the night. Diphtheritic membrane has entirely disappeared. Swallows without difficulty, and has taken one quart of milk and one of soup since 5 P. M. yesterday. Upon laryngoscopic examination the head of the tube can be distinctly seen lying within the cavity of the larynx while the mucous membrane above it seems quite œdematous.

Sept. 7th, 11 A. M. Temperature 100, pulse 80, respiration 20. Did not sleep well last night, complained of fever, heat and pain in throat but feels much better this morning.

There still remains considerable œdema of mucous membrane of larynx above the tube which was scarrified.

Sept. 8th. Condition still remains the same; again scarrified the œdematous mucous membrane.

Sept. 9th. Condition much the same. The œdematous swelling, however, is much less. Now eats solid food without difficulty. Made several ineffectual attempts at removing the tube. On account of the low situation of the larynx the head of the tube could not be reached with the finger, only the tip of the epiglottis could be located.

While with the laryngoscope the head of the tube could be distinctly seen and the extractor introduced into it, yet with every attempt at removal the forceps would slip. This was due to the fact that on account of the depth of the larynx and the distance to the head of the tube the extractor could not be introduced a sufficient distance to grasp it firmly.

Sept. 10th. Condition favorable. After having had the tip of the extractor more deeply serrated, the tube was removed by the aid of the laryngoscope after several attempts. The respiration was now carried on without difficulty and the patient was not seen again until Sept. 17th, when he reported at my office. Voice still hoarse, coughing considerably, respiration normal.

Upon laryngoscopic examination a small ulcerated surface was observed on each side of the glottis just above the vocal cords covered with a thin grayish white exudate. Both vocal cords thickened and of

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the color of raw beef. Prescribed an expectorant mixture. Patient eating and feeling well and expressed the belief that his life was saved by the operation.

Dr. F. A. Stahl: Mr. President, if my question relates to the subject I should like to ask Dr. Waxham, when he has introduced the tube and it has remained in the larynx several days, the little one after the first introduction for a while breathes perfectly, but the respiration with the tube introduced becoming labored, the child coughs it out; does he find it necessary to reintroduce it, the child apparently breathing more freely after the tube was coughed out, and if so, why? I ask this question because I knew of such a case and would like to have it explained.

Dr. F. E. Waxham. Mr. President, in regard to the last question that was asked I would say, that if the tube is expelled one hour after it is introduced or one day or three days and dyspnœa does not return by no means reintroduce the tube. All that the tube accomplishes is to give relief to the difficult breathing and if the tube is expelled with sufficient membrane so that the trachea remains clear and no dyspnœa returns then the tube is not required. The occasion for the reintroduction of the tube will be the re-formation of the membrane. We all know that when this membrane is expelled, in the majority of cases it reforms in from 12 to 36 hours and then the tube should be reintroduced.

In regard to Dr. Hoadley's criticism I would say, it is only in the adult that we have this difficulty in the introduction of the tube. In children we have no difficulty with the introducer striking the roof of the mouth as there is plenty of room for introducing the tube easily. Neither do we have trouble with children in the extraction of the tube, but it is in the adult that we have met with difficulty. The length of the tube, together with the long angle of the introducer, make it difficult to get into the larynx, but this difficulty is overcome quite as well by using the introducer appropriate for the child, as by the introduction of the new instrument.

Dr. Robert Tilley read a

Report of a Case of Larvæ in the Middle Ear.

Mr. Chairman, Members of the Society: The subject of the report which I am about to make is a lad about four or five years of age who was brought to me about the 10th of last month. I found a condition of enlarged cervical glands and extensive eczema apparently radiating from the right ear, but also existing over various parts of the body. There were also various sores on the body that made me suspect the presence of certain inherited difficulties. However, the trouble the mother brought the child to me for consisted in the presence of maggots in the ear; the mother told me she had already taken out some two dozen. The child was exceedingly restless but did not give any very marked evidence of being in severe pain. I speak of this simply because the authorities speak of the presence of maggots in the ear as causing a very great amount of pain. I can readily conceive that it is quite possible, but this child appeared to be perfectly quiet in my waiting room. I sent him to the St. Luke's hospital, and he slept soundly there and was sleeping on my visit about an hour afterward. So, pain associated with the presence of maggots in the ear, so far as my observation went, did not seem to exist, although I do not say the pain was not there. I determined to anæsthetize the child because, while I felt satified I could get out a certain number of these maggots, I also felt sure that I could by no means do it sufficiently satisfactory to myself to give me the assurance that I had done the best for the patient. I extracted eight that were clearly filling up the external meatus. The remaining four of the dozen that I extracted were taken from the middle ear. I am perfectly confident of this because with a good illumination I could see the remnant of membrane which existed and I could see clearly that I had extracted all that were present in the external meatus, and more than that, I could see the movement of the maggots in the middle ear and their actual appearance from behind the membrane.

I will just say a word or two, Mr. Chairman, in reference to the peculiar chracteristics of the maggots, which I will show you. I do not pretend to assign them to any particular fly, but in all probability they originated from the blue bottle, although I won't assign them to that fiy, because Kuntzmann as early as 1811 took the trouble to collect the maggots he had taken from an external meatus and put them under a glass cover to secure their development. He allowed them to develop into flies and gave them to an entomologist to assign to the special species to which they belonged. But it was found that they belonged to a heretofore undescribed species. So I won't say these came from the blue bottle fly, although that was probably their origin. I should suppose the unclean condition of the ear was a source of attraction to the fly and resulted in the deposition of the eggs, or the living insects, according to the habits of the fly. These maggots have on the head two horn-like projections something like a hawk's beak and of a horny character and apparently very strong relative to the size of the insect. The insect consists of some ten to thirteen or fourteen rings and on each ring, both on the ventral and dorsal aspect, there are very many smaller hooks running in the same direction as the two hooks situated near the head, and I can easily believe that under certain circumstances the insect can cause a very great deal of pain, or of discomfort, to say the least.

With reference to the method of removing these insects; some authors speak very confidently and loosely, as though any living insect can be removed from the ear with a great amount of facility by simply pouring a little sweet oil or kerosene, or something of that kind. However, others have observed more closely and have subjected these larvæ to the influence of these apparently innocuous substances, and they find that they will crawl about in such substances; for instance, kerosene, and apparently, if not enjoy it, seem to be not seriously inconvenienced by it.

The plan I adopted was the injection into the ear of chloroform water. The vapor of chloform is probably one of the most efficient in cases of this kind. I simply filled the ear as far as I could with chloform water and that seemed to facilitate the removal of the insect. I had very little trouble in removing them with the small hook by just touching the insect where it seemed to be having a firm hold and then by a little further manipulation I succeeded in getting all of the maggots out of the external meatus. When I came down to the membrane I still continued to inject the chloroform water down into the middle ear, and the maggots made their appearance in the

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external meatus and were removed. I saw some of them appear from behind the membrane; I introduced this small hook and passed it behind the membrane under good illumination and thought that I had cleared the entire middle ear of the maggots. Feeling sure there was a certain amount of syphilitic taint in the child and remembering, at the same time the very great amount of service preparations of hydrargyrum renders in the killing of insects of various kinds, I introduced some mercurial ointment into the ear as far as I could, extending it to the middle ear. The next morning I found on the dressing two more dead maggots, and that was the last I have been able to find upon the child, and as he is progressing very favorably I have every reason to suppose that they are all removed from the ear.

Dr. Robert Tilley. Mr. President: Of course with reference to foreign bodies and the irritation of the external meatus in general, experience varies. In reference to cough, one individual may have any amount of trouble in the external meatus and have no cough, then with others the very slightest amount or irritation in the external meatus sets up coughing immediately. In this case I did not notice any coughing.

Notes on the Alkaloids.

COCAINE.

Of the many remedial agents brought forward within recent years for the alleviation of human suffering, none, in my opinion, are entitled to more consideration than cocaine. So wide is its range of usefulness that it is a priceless boon to the general practitioner, every surgeon and every specialist. So frequently have the journals of this country sounded its praises by giving enthusiastic accounts of its operations, that it seems almost superfluous at the present time to repeat its many and varied applications.

Administered internally, cocaine is a stimulant; the heart beats are increased and respiration quickened; with this is a grateful sense of satisfaction and activity. Ideation also becomes more active and comprehensive.

Large and poisonous doses have the opposite effect, paralyzing the pneumogastric nerve, and death may ensue from sudden failure of respiration or of the circulation.

In heart failure, from any cause, cocaine, in small and frequently repeated doses, promises to rank with digitalis, strophanthus and nux vomica.

In typhoid fever accompanied with failure of the circulation, cases have been reported by Da Costa and others, in which cocaine succeeded in sustaining the heart's action until the crisis had passed, where digitalis and alcoholic stimulants had failed to procure decided benefits.

In cholera, Dr. Bartholow speaks of it in the highest terms, claiming repeated cures by its use, when all the ordinary remedies had been applied in vain.

The daily amount given in these cases did not exceed one grain.

Alcoholic tremors, senile trembling and paralysis agitans, according to the same eminent authority, are more favorably affected by cocaine than by any other remedy.

In yellow fever. Cocaine is being used with excellent results in yellow fever. It is claimed that under its use there is no black vomit nor efforts "to bring up the lump from the stomach." It also acts as a heart tonic and diuretic.—*Medical Progress.*

CODEINE IN OVARIAN PAIN.

Dr. Freund (*Medical News*) finds that in ovarian pain, from prolapse, oöphoritis, perioöphoritis or neuralgia, codeine is prompt, unmistakably beneficial and more or less permanent in effect even with small doses. No bad effects follow, does not stupefy, diminish the appetite or constipate. Should be used in pill form for one month after an attack of ovarian pain. It will not relieve pain from uterine affections nor from pelvic exudates or tubal disease.

PILOCARPINE IN ECLAMPSIA.

Pilocarpine may be said to be on trial as a remedy in the dreaded convulsions of puerperal eclampsia, and it is important to note the results which are from time to time reported by competent observers. A case recently published in a French contemporary shows clearly enough that in certain cases the drug may be relied upon to conjure the attack. In this particular case the attack had come on during labor, and was not relieved on the evacuation of the contents of the uterus; indeed, the condition of the patient on the following day was simply desperate. The injection of a third of a grain of pilocarpine at the critical moment, is reported to have produced a most remarkable effect. After an abundant diaphoresis lasting over an hour, the pulse returned in the radial arteries and the surface temperature was restored. No further convulsions occurred, and in the course of a day or two the injections continued night and morning, albumen disappeared from the urine, the patient becoming convalescent. The effects were too clear and too prompt for the results to be attributed to any other influence.—*Medical Press and Circular.*

PILOCARPINE FOR CHRONIC BRONCHITIS.

In the treatment of ordinary cases of bronchial catarrh, accompanied by cough, arrested secretions, derangement of the digestion, etc., etc., pilocarpine in small doses at short intervals, says the *Medical Summary*, is one of the most effective remedies that we have at the present time, and can be given to children, adults, and all persons without regard to the condition of the stomach. The dose for adults should not be more than one-fiftieth of a grain every hour or two, and the preparation should be allowed to dissolve in the mouth. Not alone the cough and bronchial secretions are improved, but the activity of the salivary glands is increased, and this increased secretion entering the stomach the functions of that organ are improved, and in the course of a day or two the condition of the patient is changed in a remarkable manner.

ANEMONINE.

This is the active principle of pulsatilla. It is finding favor as an emenagogue with all schools of medicine. It is in form of crystals, almost insoluble in cold alcohol, hot water or ether, but will readily dissolve in hot alcohol. The dose is three-tenths of a grain twice a day. It is my opinion, however, that better results may be had by giving in smaller doses and at shorter intervals. A trituration being best. —*Exchange.*

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Western Medical Reporter.

A Monthly Epitome of Medical Progress.

JOHN E. HARPER, A. M., M. D., EDITOR.

G. FRANK LYDSTON, M. D., ASSOCIATE EDITOR.

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THE EDITOR would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information should be accompanied by the full name and address of the writer, although not necessarily to be published. All communications should be addressed to

WESTERN MEDICAL REPORTER, 163 State Street, Chicago.

Koch and His Preventative Inoculations Against Tuberculosis.

There is entirely too much haste on the part of those who are rushing into print with opinions *pro* or *con* regarding Koch's latest experiment. It is best to wait until Koch himself is satisfied with his results before passing judgment. The eminent man who condemns the method without a hearing is on a par with the Jim Crow doctor who lauds the discovery to the skies, yet knows not whereof he speaks. The Nestors who condemn Koch as a "nuisance," had better make haste slowly. Speaking of nuisances, people who live in glass houses had better keep still. Medicine and surgery would thrive better if the yawp of the mushroom doctor and the dictum of the relic of the past were relegated to the lumber-room. Koch has done something for modern medicine, while some of those who abuse him have done little but make codes of ethics—men of straw which they have busied themselves in setting up and knocking down.

The Meeting of the Southern Surgical and Gynæcological Association.

The annual meeting of this association was held at Atlanta, Ga., Nov. 11, 12, 13th and was one of the best meetings so far held. Although the organization is only three years old, its meetings are characterized by papers and discussions equal to the best. Its members are the active workers in the profession and its transactions constitute one of the handsomest and most scientific volumes we have yet seen. The membership is limited to one hundred and is now full. This feature, however, we cannot commend. No general association should erect a barrier against the admission of any worthy member of the profession who desires to join it. With local bodies the conditions are somewhat different and exclusiveness is desirable.

There is but one criticism to be made regarding the meeting just past and that is the manifest tendency of the abdominal surgeons to monopolize the meeting. A resolution had been passed to limit the discussions to five minutes, and each member was restricted to a single discussion of any one paper. The rule was repeatedly violated by the abdominal enthusiasts and the chair was seemingly unconscious of the violation. The discussions on the treatment of ectopic gestation, and on pelvic inflammations each occupied an entire session. Some three or four gentlemen spoke at least fifteen or twenty minutes and some few discussed the same topic two or three times. While this was a good opportunity for the men who had opened their mouths only to put their foot in it, so to speak, to hedge, it was not according to the best parliamentary authorities. However, we will confess that the discussions were worthy of the British Gynæcological Association. A violation of the rules is bearable when one listens to such men as Joseph Price, L. L. McMurtry, C. A. L. Reed, W. M. Polk and Robert Battey. Another point to which we must take exception is this: It is not in good taste nor is it justice to regular members, for the presiding officer or secretary of a scientific association, to call upon prominent physicians whom he may see in the room to discuss papers. All men should be free and equal in the sight of the president of a medical society. The mutual admiration business has been coddled to death—it has died of marasmus. Dr. Geo. Engleman, the retiring president of the Association, is to be congratulated upon the success of this meeting. The large attendance was due in great measure to his personal magnetism and national reputation.

The President-elect of the S. S. & G. A. for '90 and '91 is Dr. Lewis L. McMurtry, one of Kentucky's brightest men, and one of the most expert abdominal surgeons in America.

The next meeting will be held in Richmond, Va., in November '91. With McMurtry as president, and Hunter McGuire for chairman of the committee of arrangements, its success is assured. Too much credit cannot be given to Dr. W. E. B. Davis, secretary of the association, and to the local physicians of Atlanta, for the success of the meeting just past. Drs. Virgil O. Hardon, F. O. Stockton, and others were especially energetic. Drs. Westmoreland, Dan. Howell, Wm. P. Nicholson and Hunter P. Cooper enacted the role of entertainers to perfection. Dr. Westmoreland is as princely in hospitality as he is brainy and courteous.

We append a list of the papers read. Physicians would do well to order a copy of the transactions from Dr. W. E. B. Davis, of Birmingham, Ala., at an early date.

FIRST DAY, Tuesday, November 11, 1890.

1. The President's Annual Address.—George J. Englemann, M. D., St, Louis, Mo.
2. How Shall We Treat Our Cases of Pelvic Inflammation?—R. B. Maury, M. D., Memphis, Tenn.
3. Abdominal and Pelvic Surgery in America.—Joseph Price, M. D., Philadelphia, Pa.
4. The Best Route to the Bladder in the Male for Disease or for Foreign Bodies.—Hunter McGuire, M. D., Richmond, Va.
5. Suprapubic Cystotomy in a Case of Enlarged Prostate.—Wm. H. H. Cobb, M. D., Goldsboro, N. C.
6. Further Observations on the Dangers of Operative Delay in Prostatic Troubles, with Personal Experience.—R. D. Webb, M. D., Birmingham, Ala.
7. Clinical History of the Episcystic Surgical Fistula, with Cases.—Jno. D. S. Davis, M. D., Birmingham, Ala.

AFTERNOON SESSION—2:30 O'CLOCK.

8. Anatomy and Pathology of the Illeo-Cæcal Region.—Richard Douglas, M. D., Nashville, Tenn.
9. Inflammation in and About the Head of the Colon.—L. L. McMurtry, M. D., Louisville, Ky.
10. The Indiscriminate Use of Opium in the Pelvic Diseases of Women.—H. P. C. Wilson, M. D., Baltimore, Md.
11. The Indications for Operation in Ectopic Gestation.—Chas. A. L. Reed, M. D., Cincinnati, O.
12. The General and Local Treatment of Gangrenous Diseases and Wounds.—Bedford Brown, M. D., Alexandria, Va.
13. Cancer of the Cervix Uteri in the Negress.—Howard A. Kelly, M. D. Baltimore, Md.
14. Vesico Vaginal Fistula, Aberrant Cases.—Henry F. Campbell, M. D. Augusta, Ga.
15. Exhibition of Pathological Specimens Removed by Laparotomy.—W. H. Wathen, M. D., Louisville, Ky.

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SECOND DAY, Wednesday, November 12, 1890.

16. Treatment of General Septic Peritonitis.—W. L. Robinson, M. D., Danville, Va.
17. Two Cases of Laparotomy for Intestinal Obstruction.—J. T. Jelks, M. D., Hot Springs, Ark.
18. Cases in Abdominal Surgery.—I. S. Stone, M. D., Washington, D. C.
19. Further Study of the Direct and Reflex Effects of Lacerations of the Female Perineum.—J. H. Blanks, M. D., Nashville, Tenn.
20. Wet Antiseptic Dressings in Hand Injuries.—Wm. Perrin Nicolson, Atlanta, Ga.
21. Conservative Surgery in Injuries of the Foot.—J. T. Wilson, M. D., Sherman, Texas.
22. A New Departure in Gynecological Electro-Therapeutics.—The Water Electrode.—George J. Engelmann, M. D., St. Louis, Mo.

AFTERNOON SESSION—2:30 o'CLOCK.

23. Removal of Stone from Female Bladder through the Urethra, with Cases.—W. O. Roberts, M. D., Louisville, Ky.
24. Strictures of the Male Urethra.—W. F. Westmoreland, M. D., Atlanta, Ga.
25. Treatment of Urethral Strictures by Electricity.—W. Frank Glenn, M., D., Nashville, Tenn.
26. A Review of the Treatment of Varicocele, with Cases.—G. Frank Lydston, M. D., Chicago, Ill.
27. A New Jacket for the Treatment of Spinal Diseases and Injuries.—G. A. Baxter, M. D., Chattanooga, Tenn.
28. A Case of Fracture of the Femur, due to Fragility.—Hunter P. Cooper, M. D., Atlanta, Ga.
29. Turpentine as a Gynecological Remedy.—DeSaussure Ford, M. D., Augusta, Ga.

THIRD DAY, Thursday, November 13, 1890.

PAPERS.

30. Conservative Gynecology.—W. D. Haggard, M. D., Nashville, Tenn.
31. Operations for Procidentia Uteri.—Geo. H. Noble, Atlanta, Ga.
32. Some Observations on Rectal Surgery.—Shep. A. Rogers, M. D., Memphis, Tenn.
33. Rectal Medication in Pelvic Troubles.—W. Hampton Caldwell. Lexington, Ky.
34. Is Gonorrhœa Ever a Cause for Pelvic Inflammations?—J. R. Buist, M. D., Nashville, Tenn.
35. Uterine Moles and their Treatment.—J. T. Wilson, M. D., Sherman, Texas.
36. Indications for Cholecystotomy.—A. M. Owen, M. D., Evansville, Ind.
37. Cholecystotomy.—W. E. B. Davis, M. D., Birmingham, Ala.

AFTERNOON SESSION—2:30 o'CLOCK.

38. Intra Ligamentous Ovarian Cystoma.—Cornelius Kollock, M. D., Cheraw, S. C.
39. The Influence of Unclean Obstetrics in the Causation of Disease of the Pelvic Organs.—George H. Rohe, M. D., Baltimore, Md.
40. The Surgical Treatment of Empyema.—J. A. Goggans, M. D., Alexander City, Ala.
41. Foreign Bodies in the Air Passages, with Report of Cases.—John E. Pendleton, M. D., Hartford, Ky.
42. Conclusions Drawn from Three Thousand Cases of Obstetrics.—J. G. Grigg, M. D., Birmingham, Ala.
43. A Case of Strangulated Umbilical Hernia complicated with a large Uterine Fibroid; Supravaginal Hysterectomy and Radical Operation for Hernia.—Joseph Taber Johnson, M. D., Washington, D. C.
44. Report of Two Cases of Cranial Surgery.—Henry L. Fountain, M. D., Bryan, Texas.

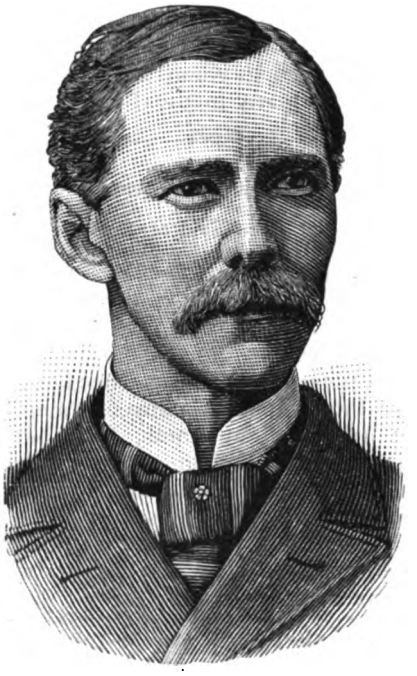
Men of Whom the Profession is Proud.

DR. ARCHIBALD DIXON.

Dr. Archibald Dixon, or, as he is known to his intimate friends, "Arch." Dixon, of Henderson, Kentucky, is one of the most popular and talented men in the medical profession of the South. Not to know Dixon is to confess one's self a stranger in Kentucky.

Dr. Dixon comes from one of the oldest families in his native State. He is the son of ex-United States Senator Archibald Dixon and Elizabeth R. Cabell. He was born March 4, 1844. Dr. Dixon received his education in the celebrated school of B. B. Sayre, at Frankfort, Kentucky, and at the University of Toronto, Canada. He was married December 14, 1864, to Miss Maggie H. Herndon, one of the most charming of the many charming ladies of Kentucky. For a long time Dr. Dixon lived the life of a country gentlemen, but being remarkably studious, devoted most of his time to reading and general culture, a recreation which has yielded rich results in his later years.

He began the study of medicine in 1874, and graduated at the Louisville Medical College in March, 1877. He has since been engaged in general practice in his native city of Henderson, Kentucky, and is one of the most prominent and successful practitioners in



Henderson County, being especially prominent in surgery and midwifery. Dr. Dixon has held a number of important professional positions. He was President of the Mississippi Valley Medical Asscciation in 1885-6, and of the McDowell Medical Society in 1886. He is one of the editors of the New England Medical Monthly, and has contributed largely to medical literature for the past ten years. His papers on "Arrest of Evoluion *versus* Maternal Impressions," which were recently published, show that he is a medical philosopher of a high order, and have received many commendations from the best men in the profession. He is a member of the American Medical, Kentucky State Medical, and American Medical Editors' Association. The first laparotomy ever performed in Henderson County was performed by Dr. Dixon, and had much to do with his present surgical prominence.

Dr. Dixon probably has more friends among the medical profession that any doctor in the South. Much of his popularity is due to the fact that he is a natural-born entertainer. No visiting Doctor ever came within range of Arch Dixon without being infused with a little of Kentucky good-fellowship, and more

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than all, impressed by the talents of this prince of entertainers.

Mrs. Dixon is an able lieutenant to the doctor in his function of entertainer, and if the experience of one northerner is any criterion, no one who ever visited the hospitable home of the Dixons was anxious to leave, and none have ever left its doors without a firm resolve to call again at the first opportunity.

Dr. Dixon has a very interesting family. One of his sons, an exceptionally promising young man, is following in the footsteps of his father, and will shortly graduate at Bellevue Hospital, New York. His oldest daughter is the wife of Mr. Jonas, a very wealthy and accomplished gentleman, of London, England. To say that Mrs. Jonas resembles her mother in beauty and accomplishments is the highest tribute which we can pay her.

Although far removed from medical colleges, Dr. Dixon has demonstrated the possession of qualities give promise of a broader sphere of usefulness in the near future. We join his many other friends in hoping that he may one day consent to transfer his talents to one of our many medical centers.

Book Reviews.

"The Evil That Has Been Said of Doctors." Extracts from early writers collated from "Le Mal Qu' on a Dit Des Medecins" of Dr. S. J. Witkoski. Translated with annotations by T. C. Minor, M. D., Cincinnati. Reprint from the Cincinnati *Lancet and Clinic*.

To see ourselves as others see us, or have seen us, is not always pleasant, but as an occasional lesson in humility is—like a dose of nauseous medicine—hard to take but necessary at times, so a perusal of this little volume may teach some valuable lessons. By others' faults wise men correct their own, and although time has corrected many errors and abuses of earlier days, yet many more need to be consigned to oblivion before unjust prejudices against doctors will be also a thing of the past.

Ready Reference Series. "The Neuroses of the Genito-urinary System in the Male, with Sterility and Impotence." By Dr. R. Ultzmann. Translated by Gardner W. Allen, M. D., etc. Pp. 160. Philadelphia and London: F. A. Davis, 1889.

Dr. Ultzmann has filled the chair of Genito-urinary diseases for some time at the Vienna University. The above little work is a translation of two monographs written by him on the subject. The volume is one of the Ready Reference Series, which the well-known house of H. A. Davis, of Philadelphia introduces to the profession. The work is practical and cannot fail to prove acceptable.

"Inebriety: Its Etiology, Pathology, Treatment and Jurisprudence." By Norman Kerr, M. D., F. L. S. Second edition.

The author has given the above subject the benefit of thirty years' experience, and has lectured extensively both in this country and Europe on the evil consequences, with treatment, of various forms of Inebriety.

He holds that alcohol is a poison, and beer-drinking not harmless but actually productive of disease, and to support this theory he advances facts gathered from wide observation and experience. The work cannot fail to interest although it may not coincide with the opinions of a majority of readers. But any work having for its object the elevation of mankind should find a ready welcome, and liberal encouragement.

"The Text-Book of Animal Physiology," with introductory chapters on General Biology, and a full treatment of production for students of Human and Comparative (veterinary) Medicine and General Biology, by Wesley Mills, M. A., M. D., L. R. C. P., with over 500 illustrations. New York: D. Appleton & Co. 1889.

The study of veterinary medicine has shown great progress in the last few years, and at the present day occupies a favorable position in medical sciences. Formerly this branch of learning was left to the uneducated laborer, but of late years colleges have been founded and much valuable literature has been the means of educating and interesting men of science in the study of medicine and surgery as applied to the lower animals. The above volume is one of the few excellent works on the subject of veterinary medicine, and cannot fail to be acceptable to those who desire valuable information on this branch. The name of Appleton is sufficient guarantee that the publishers have not neglected their part of the work.

"A Treatise on Diseases of the Nose and Throat," in two volumes, by Francke Huntington Bosworth, A. M., M. D., Professor of Diseases of the Throat, Bellevue Hospital Medical College, New York; Fellow of the American Laryngological Association, of the American Climatological Association, etc., etc. Volume I., Diseases of the Nose and Naso-Pharynx, with four colored plates and 182 wood cuts. Cloth; octavo, pp. xvi, 670. New York: William Wood & Co. 1889.

This work is the second edition of "Med. Specialities" published by Wm. Wood & Co., and the first volume on Diseases of the Nose and Throat, by Dr. Bosworth, the second following in a short time. This work is in a sense original, although in 1881 Dr. B. published a volume on Diseases of the Nose and Throat. It is divided into three sections, the first thirty-eight chapters relating to Methods of Examination, Methods of Treatment, Mucous Membranes, Taking Cold, the Anatomy and Physialogy of the Nose and Some General Considerations concerning Catarrhal Diseases. Then several chapters are devoted to Rhinitis, the different symptoms and modes of treatment, followed by Nasal Reflexes, Hay Fever, Nasal Hydrorrhœa, Anosmia, Deformities of Nasal Septum, Epistaxis, Foreign Bodies in the Nasal Passages, Rhinoliths, Parasites in the Nasal Cavities, Syphilis of the Nasal Passages, and also its Congenital Manifestation, Tuberculosis and Lupus of the Nasal Passages and Rhinoscleroma: Ten chapters are devoted to the various neoplasms which are found within the nasal cavity. The last chapter in Section I consists of the Diseases of the Accessory Sinuses of the Nose. Section II is entirely devoted to the Diseases of the Naso Pharynx. Whole Section III relates entirely to External Surgery of the Nose, and describes over thirty different operations, giving the name of the surgeon advocating the same. The whole work is plentifully embellished by finely engraved wood cuts, and four colored lithographic plates add to its value.

Dr. Bosworth holds a place second to none in the East in his specialty, and this work is characterized by the force and simplicity for which he is noted. Being a teacher of wide experience and an indefatigable searcher after truth, his observations are of especial value to the specialist in this particular branch.

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ORIGINAL ARTICLES.

Introductory Address

Delivered at the College of Physicians and Surgeons, Chicago, Sept. 23, 1890.

BY PROF. C. C. P. SILVA, M. D.

Mr. President, Faculty, Most Worthy Audience:— Ever since education became systematized and buildings devoted to teaching were erected, it has been the custom to convoke gatherings into the various temples of learning, at the expiration of the autumn term of vacation, to be addressed by the members of the faculties, who are nominated and elected by their colleagues at regular meetings of those bodies. This explains my prominent position here this evening, and my seat of honor between the illustrious minister of the Gospel, whose words enlighten us like so many specular reflections of hidden truth, and the no less distinguished Vice-President of this faculty, who, by gentle sounds and soft murmurs, reveals recondite truths that nature hides in her mysterious bosom.

Abroad, and perhaps at home, though I decline to become liable for this statement, the nomination and election for positions, as this now held by me, are most eagerly sought after by the junior members of the faculties. Fresh yet from the benches of their alma maters, replete of knowledge, their visual and auditive fields enlarged by microscopic and stethoscopic training; untrammeled by the biases of experience, they feel anxious for an opportunity whereby they may be permitted to unburden their overloaded brains before an audience composed chiefly of medical neophytes and full-fledged M. D. D., irrespective of sex, nationality, or color. For this purpose a great deal of wire-pulling is practiced, caucuses are held, and bribing, trading, and repeating at the polls are of no infrequent occurrence. With us, however, unfortunately for you and I, this business is carried in accord to the very letter of the law, and though like Micawber, I have fondled in my breast the sweet expectation that something might turn up to relieve me from this awful plight, it has all been in vain.

I have shrunk from the performance of this duty, and I own it without a blush, simply from pure humanitarian motives, for there is not a single cell of cruelty in my composition; the sufferings of my fellow-men affect deeply my sensitive organization. In the heat of passion, or in self-defense, I may return blow for blow or bullet for bullet, unless the unwritten code commands me to hide the indignant frown in the safety of a speedy retreat; but in cold blood, without the slightest provocation, and moreover, with premeditation, I cannot tolerate the thought of inflicting torture on friendly people and impassively witness their agonizing contortions.

Self-preservation is the first law of nature; under its unswerving power, I have accepted the inevitable! May the Olympian gods be merciful with you!

The practice of medicine is coeval with man's first ailment; rudimentary, undeveloped and empyrical at first, as all that is primitive; it grew, expanded and diffused, as man's needs, ingenuity and experience, unfolded. Its progress was not continuous and uninterrupted; the vicissitudes of the human family, always impressed indelible traces on its path; now of light and advancement, and again of superstition and error.

The hermits, priests and monks, as the most enlightened members of their communities, assumed the role of physicians; the patients were carried to their temples for treatment, which consisted in the administration of vegetable beverages aided in their psychic effect by a few cabalistic words or mystic signs, in the form of a prayer, or perhaps by the immotation of a victim, an innocent virgin, a lamb or cock.

Slowly and gradually, imposture, superstition and ignorance, gave way to investigation, veracity of purpose and knowledge; the physician ceased to be a superhuman being and descended into his true sphere; the healer of the sick. Greece, Arabia and Egypt, brought out at the earliest date, the most proficient practitioners, who were the recipients of much praise.

The Roman Empire, notwithstanding, her haughtiness, power, wealth and glory, indolently basked in the glittering rays of her many trophies, and aside from the culture of the art of warfaring, kept even pace with the less civilized nations; her physicians came from the ranks of the slaves who displayed any aptitude for handling drugs, a distinctive badge was granted them, which consisted in a gold ring worn on the finger, and without more ado, they were let loose upon the communities to exercise their calling.

The needs of the empire, however, soon required the services of abler men; Greece filled the desideratum, and the newly adopted citizens of Rome, were greeted with marks of distinction, having titles of nobility and lands bestowed upon them. For a long time, empyricism had the supreme sway; it behooved Hippocrates to take the first successful steps toward freeing the healing art from so much that was foreign to it; he founded doctrines which outlived him for centuries, but his knowledge of anatomy was limited, and due, in part, to the dissection of animals, and, in part, to observation while performing some surgical operations.

His services in that early period gained him the much merited title of "the father of medicine." Several centuries after his demise another brilliant star glittered upon the oriental skies; it was Galen, the reformer. He accepted the precepts as taught by Hippocrates, but to the elements, qualities, and humors of the masters, added the three spirits—natural, vital, and animal. Here, however, history remains silent as to whether they were introduced in original packages or not.

To Erasistratus and Herophilus belong the credit of the first dissections on the cadaver about a century after Hippocrates, and only then surgery proclaimed its independence from medicine, which took the name of dietetic. This marked another monumental epoch in the history of the healing art; it pointed out the advantage of unraveling and ampliating its narrow borders, and of linking it more closely to the collateral sciences, whereby, and by virtue of its own mer-

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its, it has been elevated to the dignity of a science.

The separation of these twin sisters—medicine and surgery—was but the alarm for further dismemberments. Chemistry, a member of the black art, issued from the night and soon shed innumerable rays of light on subjects until then ignored. Physiology and electricity revealed the mysterious functions of the organism, and pathology located the cell or tissue change, which causes disease or death. From these factors, with the aid of optics and improved lenses, emanate all the achievements in modern medicine and surgery.

To the advancement and progress of the medical science followed the necessity of a division or limitation in its practice—hence the specialties. These came in at first as most desirable and acceptable outgrowths of medical knowledge, and were welcome both by the profession and the public. Soon, however, they began to spring upon us with the celerity of the mushroom growth after a summer shower, until at present, rank and encumbering as the jungle in the tropics, they spread over land, rock and crevice, and with their malignant shade stunt and destroy the germination of the true seed of learning.

Not a small number of the specialties so far and widely advertised are not only dishonest and superfluous but greatly injurious to the public and discreditable to the profession in general. Yet, to the true and zealous practitioner it is incumbent the arrest of these evil practices by denouncing them whenever they should occur.

I reiterate, there are several specialties which ought to receive the heartiest support from the general practitioner - they are very useful, they are a boon to humanity—but all the other sneaking nihilisms should be trampled upon with the contempt arisen by just indignation.

To you medical students and general practitioners, I appeal this evening for co-operation in the sacred crusade against pretentious humbuggery, and also against the evils that arise from the atrophy of the mind and narrow boundaries of its views, when any specialty is practiced by untutored brains. Apply yourselves first, with a stout heart to all that is taught in this or any other first-class college, attain the highest degree of proficiency in all the subjects of your curriculum, and then branch off to the minute study and exercise of any honest specialty, and you will deserve the title of benefactors of humanity, and the respect and endorsement of your brother-practitioners. On the other hand, with your views drawn simply on a special section of practice of medicine or surgery neglect and let go by default every thing else, and what will the result be? You will be top-heavy, wanting in ballast and misloaded, and even if ever so conscientious in your deliberations, you will see all your subjects through the sole prism of your education, and consequently fail in all other purposes. Imagine a doctor whose specialty is that of seer of rectal pockets, aurificial surgery, for short, and whose ideas are otherwise embryonary. Why, he will think of nothing but pockets, will fancy them and search for them, upsetting every case for inspection, and finally, the patients will either vanish forever with depleted pockets, or give up doctoring and regain health by expectorating huge nuggets of profanity against the profession.

More than once, it has been our painful duty to concur in the rejection of students who have managed to consume the most of their time in the search of some pet topic, to the detriment of their general information. As a rule, they have ascribed their rejection to the ill will of a few members of the faculty, and tried to pose before their fellow students, and the public, as true martyrs of a prejudice, but they did not go home to pine away, or to let the grass grow over their defeat; they simply walked off slowly and pensively, as in mental dialogue with an aching corn, and soon after, were graduated, with honors, at other less exacting colleges.

Only a short time since, a gentleman who used to employ me when sick, and whom I had lost sight of for a long time, came in my office. His cheeks were sunken, his face pallid, his hat rusty, battered and crown-caved, as though an antique heir-loom in the family for generations back, and his coat was highly polished and smiling at the elbows. His whole appearance was not, in the least, a precursory of happy tidings, and I hastened to inquire for the motive of his prolonged absence and the cause for his presence. "I seek no professional advice, said he, I am done with doctors; damned their miserly souls; excuse my slight attempt at profanity, but present company, as you know, is always excepted."

"After I saw you last, about three years ago, I resigned my position here, went to Florida, bought me an orange grove and located as a fruit-grower; business was very slow, and time dragged along at snail speed; in my neighborhood there was a doctor who had a remedy, which was the surest dead-shot against any kind of tape-worm or bowel parasite that I ever saw; twenty-four hours after taking it, the whole worm was invariably expelled."

"I immediately saw that there was money in it, and a darn sight quicker than in growing oranges for the market, so I went to work and swapped my grove for his recipe and $500 to boot and sailed for the city of New York, where I opened an office richly fitted up; the shelves ornamented by jars containing specimens of tape-worms of huge sizes, of my own make and design; a host of hand-bills, distributed all over the city; a nice coupé always in attendance at the door, and in a short time I was making money hand over fist at my specialty. The other doctors became jealous of my success, swore out a warrant against me for practicing medicine without a diploma, I was arrested and fined heavily; on second offense, a heavier fine was imposed upon me, until finally the court and the lawyers got my last dollar, and I had to travel west, incognito, under the garb and privileges of a tramp. I am bound for St. Louis, Mo., a magnificent tape-worm field, I am informed, and wish the loan of $50 to replenish my wardrobe, refit my stomach somewhat demoralized by the irregularity of meals aboard the freight cars, and the remainder to start me in business in the noble city by the bridge. As security, I will give you my note payable in sixty days, and as a mark of gratitude, I further promise to keep you and all your kindred free from tape-worm for the next twenty-five years."

Then he paused, hooked the right thumb in the arm-hole of his vest, and looked me straight in the eye, and such a look I shall never forget! For a second or two I confess that my composure was at low ebb, but I soon tided it over, and made the following reply: Perhaps you are unaware that I have

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just returned from a trip abroad; from Central America, a country as exquisitely picturesque as it is primitive.

Railroading is yet in its infancy and reaches but very few of the places of interest, but the old stand-by, the mule of our ancestry, monopolizes the field. The tourist who sits astride of one for about eight hours has to pay one-half of its value; they cost from twenty to twenty-five dollars a piece. In my rambles I invested in three half mules but as they were odd numbers I could not conveniently fit them together to bring them home, so I donated them to a sausage factory.

The hotels are all of the first class—in rates, rats, fleas and other tropical luxuries, and of the lowest in the necessaries of life, and the steamboats that carry passengers between this and that country are an exact counterpart of the hotels. Hence the meager condition of my exchequer; and, to speak candidly, even one-tenth of your request could not at present be granted.

My little tale of woe had the desired effect, for the poor, disappointed tramp pulled himself together, reduced his former figures to half a dollar for a luncheon and a shave, and departed in quest of a luckier find, very much to my relief.

Now, that I have broached the subject of Central America, I must tell you that my observation during this trip caused a complete somersault of some of my deep-seated notions. It has been an axiom with me from early youth that cool head and warm and dry feet are conducive to health. It is not universally true. In those regions there are only two seasons, wet and dry, the former from May to November, the rain falling every afternoon and evening in tropical style, and the latter the remainder of the year. The laboring classes and the army, from the rank of corporal down to the bugler and drummer-boy, with very rare exceptions, go about bare-footed and wade through mud and water in this manner, but not one can you see without the shelter of an umbrella. The old theory is reversed—warm and dry head, cold and wet feet is their motto.

I was also brought up under the old regime ideas that earthquakes are very serious and perilous phenomena to life and property, that man can neither stamp out nor avert. Well, this is not altogether correct. In those countries the shocks are frequent and numerous, sometimes three or four times a day for several days. They have become tame, a kind of house pet, and the people act free and familiar toward them. A lady, at whose house I was entertained one evening, told me that "no one is ever killed by an earthquake." During the last severe shock that occurred in December, 1889, the frolicking revelry in her house was simply superb. As sleep was out of the question, she resolved to step out in the street for a whiff of fresh air. In passing through the parlor every article of furniture was dancing the tarantella, and the piano began to play tag with her, so that to humor it she had to hide in the corner a few seconds before proceeding.

Notwithstanding the intimacy of the earthquakes with the people in general, their antagonism to churches, and steeples in particular, is manifest, for no sooner they loom up in the air than they are flat on their backs. No one appears to understand this unrelenting hatred; I believe that I have solved the problem, it is not the steeples that the greatest levelling power is after, it is the bells, the most intruding and painstaking annoying institution in all the continent; their discordant, loud, harsh squeaks, startle you from a sound sleep at five A. M. every day, which makes you feel, for a few seconds, as if under the agonizing pressure of a horrid night-mare, and the same tooth-grating ding-dong is liberally dealt out to you until the small hours of the night.

I wondered at the magnanimity of that phenomenal democratic power, were I a member of the concern, or its manager, not only the steeples would be overthrown, but the bells triturated to the highest degree of divisibility and the dust blown into the arid deserts, there to mingle with the restless sands, and forever lose their identity. Another bulwark of my whole life-time belief has been sadly shaken since my last visit abroad; I have always looked upon procrastination as the greatest foe of man, a monster which with pleasing caresses steals into your bosom, and by degrees mutilates and devours your usefulness. The great truthful old adage: "Never do to-morrow what can be done to-day," is totally ignored in latin America, and manana, which means to-morrow, is the most common by-word in the people's mouth, and in the transaction of every day's business, or in the regular routine of life's pursuits, and from mañana to mañana, the postponing glides away, for days, weeks and months. Still, they seem to grow fat on it, and when their time comes to descend into the grave, wherein the mañana dodge fails to work, their heads are covered yet by the raven black locks, and their jaws preserve the natural array of masticators. The inference to be drawn from this object lesson, is, that in spite of the unflattering rumors against its ethics, procrastination is a hair and tooth preserver, and a general rejuvenescent agent of the highest merit, far superior to the latest French discovery: "The elixir of the juices of life."

Pardon me for this long roundabout digression, and I promise to come direct to the point and fire the few cartridges remaining in my belt straight at your heads. The targets in this affray shall be only the students of the College of Physicians and Surgeons of Chicago, and the scenes of gore and carnage will undoubtedly be appalling, inasmuch as twenty-three other marksmen are banded together in solemn pledge to keep you under a constant fire for the next six months.

Two of these are now at the Rocky Mountains practicing at long range, and their record, judging by the wholesale slaughter of bears and elks, far surpasses those of Dr. Carver and Buffalo Bill, of the wild west famous shows.

Unlike the ususal style of warfaring, armor and shield, are but a futile protection, and even the immersion in the river Styx shall not render you invulnerable, minus the heel, as Achilles; but there is a safe way to issue out of this strife with perfect immunity; aye, with flying colors. It is a dry process, at times, perhaps too dry, but it never fails:

It consists in the strict adherence to the following precepts:

1st. Retire early and arise early; devote at least two hours before breakfast, to the reading of transcendent subjects, for after a refreshing night's sleep and before the function of digestion borrows energy from the other organs, the mind is better adapted to

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grasp and dispose of matters which require mature thought. Lighter topics may be looked into between lectures, or when most convenient.

2d. Avoid the society of students whose habits are indolent and reckless, and on the other hand, cultivate the friendship of those who are assiduous and diligent. Out of the communion of thought among those who till the same soil, available fruit ensues, and vice versa, intercourse with indolence and carelessness is a consumer of precious time, to say nothing of the liability of imitation, for human nature is frail, and more prone to the indulgence of pleasure than to the undertaking of labor.

3d. Heed not the seditious harangues of the constitutional kicker, or the obstreperous fault-finder, for they generally belong to that class of students whose deeds soar higher than their intellect, and whose loud voice serves the purpose of a cloak, to muffle and drown the promptings of their own shortcomings.

The faculty of this college is proverbially friendly and easily accessible to the students, and any complaint placed before any of its members, if well grounded, always receives prompt attention. It is harder to obtain order from chaos, than blood from a mummy.

4th. In the lecture and clinical rooms, keep your eyes and ears wide open, take notes of the prominent features of the subjects, and fill in the gaps from memory, when at leisure. The training of the mind in this direction is not a difficult task, and the benefits therefrom are more than compensating.

5th and final. Be punctual in meeting your engagements; do not allow youselves to come in late to lectures, clinics or any other college obligations. The tardy student is a constant source of annoyance both to the class and to the teacher.

Whoever should faithfully abide by this code, need not fear the hottest of our fire, for he carries the secret talisman which shall for ever insure his safety, and furthermore, this very same discipline, after college life is a thing of the past and the actual struggle for professional supremacy begins, shall hold good, with but a few modifications.

Dosage.

By Dr. W. R. Allison, Good Hope, Ill.*

It is to be hoped that it will not seem egotistical to state that this voluntary task was first suggested by my own wants and realizing there are many points of view a subject can be looked at and that the old and tried method in therapeutics is that of empiricism, and what to-day is believed is to-morrow to be cast aside, certainly has been the law of advancement and seemingly must continue so.

Experience is said to be the mother of wisdom and in our desire to be wise let us profit by the past, clinging to that which is brighest and best and ere the shadows of our lives have passed away, may we by diligence, gifted by perseverance bequeath to our successor a good mantle of experience.

And now as we narrow our gaze of this vast field of medicine to that of dosage what do we see? We meet the interrogation with the picture of a busy craft anxiously working out a way to relieve pain, and many times perplexed as to best how and best to please; and as it no longer calls for convincing truth to convince the thinking mind that impressions from without are powerful influences for good or bad, and it has become a common duty to guard the afflicted with admonitions to calm their minds and how lovingly the laity feed him caresses to cheer him and make him better while discord and perplexity with a disgusting odor and a homely looking mass mar the thought and harass him with absolute disgust for medicine.

If pleasure and beautiful objects to behold elevate and joy increase the gastric juice will not its opposite bring sorrow and a pale mucous membrane.

Then let us have the bottle neatly and tastefully ornamented and pay due attention to color and form of mixture combining symmetry with beauty.

The degree is not to be a dose of a certain weight administered indiscriminately, but a certain susceptible relation existing in our bodies to certain substances not yet having a fixed value, but only a relative value, which should constitute the basis of dosage. We are taught that degree and quality are distinct things, and that a dose is a certain quantity of any substance that ought to be administered singly to produce a desired result, and experience adds that a thing of beauty is a joy forever. Therefore, the first prerequisite is that those doses which contain unpalatable substances, either be removed when found not to contain the active principal, or disguised by the handywork of the chemist. This is sadly neglected, which, if carefully followed, give to you that pleasant name that grows popular in your community, and makes you hated by your antagonizing brother.

We solve this by the example as set forth in the ordinary business life, that when anything is to be done, the effort is always to discover what is to be done, and then what are the means at hand.

Then let us no longer bind ourselves with the too long taught theme that so many grains or drops make a dose, but rather, raise higher the standard of our knowledge of materia medica and the therapeutical action. The fact is evident that a change is needed, and glad to say it is coming; and not until that day when we can better explain what we mean when we speak of idiosyncrasy, and can solve by a fixed law the why of an unexpected toxic effect, where we have often before administered the same with happy results, can we prescribe with any degree of certainty.

The history of medical progress has been as men groping in darkness, finding here and there a germ of truth; and so eager has been this search that scarcely a conceivable absurdity that men have not tested by experience to-day. The results only point that habit, climate and age must be considered, or that these alter the relation our bodies bear to the susceptibility of doses, and leaves us yet much to be tried, and culminating to a point that will place us where we can explain away much of our idiosyncrasy, our habit, our climate and our age.

We cannot but be forcibly impressed that the afflicted are often burdened with a great complexity of compounds containing active principles which, by the formation of new compounds or the aggregation of the several active principals, carries the patient of this unaware physician to a point where he realizes

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* Read Before The Military Tract Med. Ass'n, at Bushnell, Ill., Sept. 23d, 1890.

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that there is much yet to learn about doses; or perhaps in the endeavor to promote the rapid restoration of health, he prescribes a compound that singly used would either increase or decrease the present condition, but as a compound it is a mixture that neutralizes and feeds as such, and would bring better results if not prescribed at all. All of which have stamped their results so forcibly upon the profession that to-day we are fast arriving at that period where the patient is not burdened with a multiple dose list; but by the knowledge gained we reason as to the cause, and if found the physician gives to the patient his health bearings, and points to him, a course not against, but parallel to nature's laws, and prescribes in such a way as to remove the cause, and allow the patient to return to his wonted health; and here we certainly need a warning post, not alone to call attention to noble products of our chemist and manufactures, but to the dose and I believe we can confine this part most conclusively to the liquids prescribed.

We know the drop is commonly defined as an amount of liquid representing a sixtieth part of one drachm, but this varies under different circumstances, for we find it larger when dropped from the mouth of a bottle with the finger applied instead of allowing the mixture to escape about the cork, and also the angle of holding the bottle, for if the fluid is to be driven out by a bubble the size of the drop is changed.

The mouth of the bottle, the length of the neck and the thickness of the glass effect the size of the drop, whereas, temperature has much to do with the size of the drop; again the size of a drop is larger when dropped from a small bottle than from a large bottle; then, again, how strange that a teaspoonful as a dose continues to be the style of writing directions, when the size of spoons are subject to such great variations, while a *teaspoonful*, as understood, is also subject to such great variation. A half teaspoonful to some eyes is full, and I am sure we all have seen our patient take, as the nurse thought, or as she is disposed to give, a half or two-thirds for a full dose; and we have also been amused to have patients to take a teaspoonful and a half to make sure of a full dose.

Not only do we find this great disparity of size in spoons, but here is another point that speaks bad for such methods in the hands of scientists, for we have found a difference from ten to fifteen drops in a teaspoonful while dropping from the same bottle and same liquid, at the same temperature and same inclination of the bottle; then, again, a two-ounce prescription is written for a mixture representing sixteen drachms or teaspoonfuls, containing sixteen doses, to be taken as such, whereas measurement shows that as a rule nine to twelve teaspoonfuls will fill a two-ounce bottle, showing that sixteen doses are usually taken as nine or twelve.

All of which when better understood, will lead us to accept as the only true and rational method which is to discard the present mode too often used and as sketched in the few points given in this paper, and accept the triturate pellet product weighed with accuracy and stamped as such from reliable houses and raise higher the standard of materia medica, and know the therapeutical action of our remedy.

Notes Upon Somnal, the New Hypnotic.

By Frank Woodbury, A. M., M. D.,

Fellow of the College of Physicians of Philadelphia; Hon. Professor of Clinical Medicine in the Medico-Chirurgical College, &c.

Last fall Radlauer,* of Berlin, brought to the notice of the medical profession a new compound to which he gave the name of Somnal, in acknowledgment of the remarkable hypnotic properties which it appeared to possess. It was formed by the union of chloral, alcohol, and urethane, according to the original notice,† but is not a simple mixture of these bodies. It differs from chloralurethane by the addition of C_2H_4, its formula being $C_7H_{13}Cl_3O_3N$. The method of manufacture is by direct combination of chloral alcoholate and urethane in a vacuum apparatus, according to its discoverer, who states‡ that its composition might be graphically represented thus:

$$\begin{array}{l} OC_2H_5 \\ CCl_3—C—H \\ NHCOOC_2H_5. \end{array}$$

Specimens of this new hypnotic having, through the courtesy of Messrs. Eisner & Mendelson Co., been placed in my hands for examination and trial, I will here very briefly communicate some of the results thus far obtained, reserving my final judgment upon the drug until experience has been more extended.

Physical Characters.—Somnal is a colorless liquid, resembling chloroform in its appearance and behavior when added to cold water, in which it forms globules and refuses to mix or dissolve. When shaken with water, the mixture is milky but quickly separates. It is soluble in hot water and alcoholic solutions, and dissolves resinous substances and fats. The odor is faint, not very penetrating or disagreeable, and resembles that of the spirits of nitrous ether, or recrystallized chloral. The taste is very pungent; and for administration it needs free dilution. It may be given with whiskey or solution of tincture of zingiber or syrup of licorice. Somnal is inflammable, burning with an alcoholic flame; it does not evaporate quickly, and leaves a greasy stain upon blotting paper. Specific gravity greater than water; reddens litmus paper slightly.

Physiological Effects.—In its action it resembles chloral in quickness of effect and naturalness of the sleep produced. No marked depressing influence was exerted upon the pulse or respiration rate, though it was noticed that the breathing became slower and the pulse slower and fuller as in natural repose. No disagreeable after-effects. The head was clear and the stomach was unaffected; the patients generally had an appetite for breakfast. No constipating effect. The kidneys acted rather more freely than usual. My colleague, Dr. Ernest Laplace, to whom I gave some of the drug for trial at the Philadelphia Hospital, writes as follows:

"I have given somnal a fair trial upon six patients at the Philadelphia Hospital. In no case were the patients told what was given them, so outside of the bare possibility of the patients' falling asleep through natural causes, somnolence was brought on by the drug. It was administered in a solution of tinct.

* Zeitschrift des Apothekers-Vereins, Nov., 1889.
† Journal de Medicine, Oct. 20, 1889.
‡ Pharmaceutical Journal and Transactions, Nov., 1889.

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zingibers, in half-teaspoonful doses, and wns found palatable.

"Administered at 4 p. m., at a moment when patients are not generally asleep, in four cases sleep came on within half an hour, which lasted from five to eight hours; the two other cases showed no effect from the drug. It is their habit to get at least gr. ¼ of morphine sulph. to put them asleep every night, as they are sufferers from intractable malignant growth.

"In no case was there any noticeable after-effect.

"I have not formed any opinion upon the length of time that the drug could be used daily upon the same patient.

"To this I might add that no depression of the normal temperature was noticed in any case in my hands, and thus far I have not used it in pyrexia."

Therapeutic Application.—The effects of somnal in producing natural sleep suggested its use in insomnia. The first case in which I used it was in a patient suffering with acute alcoholism, who had been under treatment for a fortnight in an institution where he had a free supply of liquor, and he came out rather worse than he went in. He was 39 years of age, very tremulous, and could not sleep, or if he dozed off would immediately waken up. I gave him, at about 3 P. M., thirty minims of somnal (or rather a drachm of a mixture of equal parts of somnal and whiskey), well diluted, and went into an adjoining room to speak to an attendant. Upon my return I was surprised to find him fast asleep, although I had not been away from him more than fifteen minutes. He slept for four hours, and then was able to take something to eat. At ten o'clock he had another dose and he slept until seven the next morning, having awakened once only during the night and insisted upon having another dose, and immediately after taking it he fell asleep again. The next night he was given a double dose at 10 P. M., and he slept all night without wakening. No bad effects were observed. The somnal was given for four nights, when he was so nearly well that it was suspended, as he had had good natural sleep at night and seemed quite restored. Alcohol was positively prohibited, the only substitute allowed being Elixir of Coca and Camellia (P. D. & Co.), in tablespoonful doses, in which it is true there was a small amount of alcohol, which was quite infinitesimal when compared with what he had been using. Somnal, therefore, acts well as a hypnotic in acute alcoholism as a tranquilizer and hypnotic.

In a case of neuralgia of the bowels (visceral neurosis of Allbutt), where the patient had a sleepless night, a dose of twenty minims relieved nausea and pain, and the patient fell asleep.

In syphilitic headache and insomnia, somnal in moderate doses failed to produce sleep, which was afterward secured by potassium bromide and iodide, and antipyrine.

In cases of insomnia, fretfulness, and restlessness in young children, somnal with mint water and syrup offers better results than opiates, and is much safer. The same remark probably applies to the use of somnal in acute pneumonia, but I have not been able to confirm this yet by actual trial.

Without further going into detail it may be stated in conclusion that somnal acts as a hypnotic, but instead of depressing the system as chloral does, it slightly stimulates the gastric mucous membrane, relieves nausea and pain, improves the appetite, increases secretion (probably), does not cause constipation. The circulation, respiration and temperature are not notably depressed after its administration. No disagreeable after-effects have been observed. As it is rapidly eliminated from the body it may be administered each night for a number of days without any obvious ill-effects. It acts very much like chloral, but is more pleasant to take and not so depressing in its effects upon the nervous system and the circulation.

Society Proceedings.

Chicago Medical Society.

Dr. F. Billings.....*President.*
Dr. J. C. Hoag.....*Secretary.*
Pub. Com.— E. J. Doering, W. T. Thackeray, Jno. A. Robinson.

REGULAR MEETING.

Oct. 6, 1890.

Dr. Edwin Pynchon read a paper on—*Removal of Tonsillar Hypertrophy by Electro Cautery Dissection.*

The anatomy and physiology of the tonsil I will not attempt in this paper to consider except with brevity. As to size in the thoroughly normal condition its presenee is hardly perceptible. As usually described in treatises on anatomy it would appear that a moderate degree of hypertrophy has been accepted as the type of perfection. As far back as medical history goes allusions are to be met with concerning the enlarged tonsil and the means adopted in the attempt at its removal.

The physiology of the tonsil is not thoroughly understood. It has been supposed to be of assistance in lubricating and guiding the bolus of food being swallowed. In civilized life it seems to be devoid of practical use and appears to be but rudimentary and as a reminder of a something which in prehistoric days may have been required when man lived on fruits and nuts and barks of trees before the art of cooking was discovered. One trite observer has remarked "the principal use of the tonsil was to absorb poisons." While in common with trite remarks generally this one may possess the feature of exaggeration still I believe it in the main to be worthy of attention. For example, but note the effect in cases of diphtheria when the tonsils are prominent and the increased severity and fatality therefrom. Enlarged tonsils seem most often to result from exposure and debilitating influences and from surroundings of unfavorable hygienic condition. The object of this paper is to call attention to a condition of hypertrophy of the faucial tonsil with which I frequently meet, both in clinical and private practice. I do not allude to the usual and well recognized enlarged tonsil of the hyperplastic variety which is so frequently seen particularly in children, which is resisting to the touch and which owing to its large size occludes the faucial passage and materially interferes with both respiration and drainage. Such enlarged tonsils are, I believe, always removed by the educated physician, providing

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the consent of those closely related can be obtained and the necessity for the removal of which has been generally conceded by the medical profession.

On the contrary I allude to a condition of the gland wherein it is hypertrophied, and therefore diseased, though the enlargement may be but slight, a condition wherein the hypertrophy is more of the follicles than of the gland, and wherein the tissue while nodular, is yielding to the touch. According to Sajous, "the increased volume of the hypertrophied tonsil may be hardly noticeable" (page 287).

By the ordinary examination with the use of the tongue depressor it may be difficult to see, and, in fact, may even escape the attention of the observer, though if the tongue depressor be forced sufficiently far back, even to the touching of the epiglotis, if necessary, the patient can be made to gag, when by the contraction of the constrictors pharyngius, these diseased tonsils will be thrown out from between the pillars, and in aggravated cases may be made to meet. When so examined the lacunæ will be observed to be large, and by slight pressure upon the bodies there will be seen to exude from these openings a cheesy secretion, which is not only profuse but is ofttimes of a disagreeable odor, and consists of cholesterin, débris from broken down follicular glands, epithelium, pus corpuscles, and other waste matter. When profuse, I believe there is always a tendency towards decomposition. I have observed this secretion to be much more profuse and disagreeable in case of the small hypertrophied tonsil described in this paper than in case of the very much enlarged tonsil.

When such condition of the tonsil exists as I am describing, there will be found associated therewith other conditions, some or all of which may at times be present. The saliva in the back part of the mouth is more profuse and frothy than in a normal throat. There is generally present a condition of chronic pharyngitis and there is frequently given a history of previous attacks of quinsy, and the patient acknowledges himself to be the possessor of a throat abnormally sensitive, which is easily affected by exposure during inclement weather. Unless the patient has been accustomed to pharyngeal and laryngeal manipulations or to the use of gargles or post-nasal sprays the fauces will be found to be more sensitive than normal, so much so that the induction of gagging previously alluded to will, in fact, be too easily attained, and in many cases, at first, the mere pointing of the tongue depressor at the opened mouth causing nausea. There will generally be given a history of post-nasal catarrh with its usual train of symptoms, including at times a diminution in acuteness of hearing. There will often be observed the coated tongue and tainted breath associated with other symptoms of indigestion. In fact, since I have had my attention particularly drawn to the described diseased condition of the tonsil I have not seen a patient so affected whose tongue was not somewhat coated and who did not give some indication of dyspepsia. I believe that in the swallowing of catarrhal and diseased tonsillar secretions we have a frequent cause of chronic gastric catarrh.

If the patient is one who sings or who is accustomed to a prolonged use of the voice, as for example a clergyman, a lawyer or an auctioneer, by inquiry it will be learned that after vocal exertion there comes a condition of huskiness of the voice or even pronounced hoarseness. If the patient be a vocalist and the diseased tonsils be not extremely small it will be elicited that in the execution of the notes of high register there is a consciousness of greater muscular exertion and strain being required than would seem to be natural. There is frequently given a history of cough with expectoration, particularly in the morning, of thick mucus from the larynx often in the form of a small hard globule which is of a bad smell when compressed. There is generally a sensation of roughness of the throat which is in part attributable to the concomitant pharyngitis.

This condition of the tonsils has been by some medical gentlemen appreciated and means have from time to time been employed for their eradication. Owing to their small size and the difficulty or impossibility of grasping them the usual operation of tonsillotomy is not available. The process of ignipuncture has been suggested and is practiced by many, which operation consists of entering into the several lacunæ one after the other and generally not more than three or four at one seance, a cold platinum cautery point and then after heating the same cause it to burn its way out. This process is repeated until all of the large follicles have been destroyed, the expectation being that after such partial cauterization as described the remainder of the gland will pass away by absorption. The results have been claimed to be satisfactory though generally a very ragged and bad appearing surface remains.

From my own experience with this operation and from my observation of the experience of others I am convinced that generally the expectation is not realizd. In the case of young children, after a partial tonsillotomy, the remainder of the gland is often found to absorb but in the condition which I have in mind, and which from its nature is most often found in adults there is a denseness of the tissue which precludes the expectation of even partial absorption. I frequently meet with cases in patients 30, 40 and even 50 years of age. While the tendency in the adult is toward the absorption of hypertrophied tonsillar tissue I do not believe that such absorption is often complete. On theoretical, if not, not practical grounds, the further objection to electro puncture can be made that while the larger and more prominent follicles are destroyed there yet remain many smaller follicles which in time may become large and which even prior to such enlargement are constantly giving forth a secretion which cannot be otherwise than the gland itself, to wit:—diseased. Another patent objection is that the ragged surface remaining is a necessary source of irritation by the arresting of particles of food being swallowed and is furthermore owing to its roughness an unfavorable surface for the best production of vocalized sounds.

Another means of eradicating small diseased tonsils is to grasp them with some form of vulsellum forceps, encircle them with a galvano-cautery snare and thus attempt their removal. While such operation may in certain cases prove more satisfactory than the former operation, it is nevertheless not a thorough success.

Owing to the elongated and flattened shape of the diseased tissue the difficulties met with are apparent, and while a portion thereof may be so removed we are justified in assuming as before that the leaving undisturbed of a considerable portion of the abnormal

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tissue is contra indicated. Another of the physical objections to this mode of procedure is that in certain cases owing to previous follicular inflammations with resulting suppurations the projecting surface of the gland is not a favorable tissue for being so grasped as while the base may be indurated the surface is soft and easily torn. Another method which has been employed is the dissecting out of the offending tonsil by means of blunt pointed and curved bistouries. While this method would seem to promise efficiency if prosecuted to a sufficient degree it is for obvious reasons very seldom adopted.

Practitioners generally, even when they have recognized this condition described, have not been disposed to associate therewith the several symptoms which I have enumerated and too often realizing the obstacles to be met with in the removal of a gland so well imbeded and carefully surrounded have preferred to prescribe placebo gargles or astringent applications which can only allay temporary irritation and never produce radical cure. In this condition when the throat is in passive state I generally find the tonsil about flush with the pillars and often quite thoroughly adherent thereto, both anteriorly and posteriorly, and furthermore not infrequently associated with a condition of hypertrophy and infiltration of the pillars. The presence of such condition may, in a pronounced case detract two or more cubic inches from the space of the mouth which can be readily believed to have a material influence upon the voice. Furthermore during vocalization the pillars which are normally parallel, and should so remain, are held apart at their middles by the presence of an indurated and unyielding mass which additionally fills a space which in the natural condition is an inverted trough rendering undoubted help in the formation of certain of the voice sounds.

Believing that in such cases the indication is to thoroughly and completely remove the diseased tissue, and finding that the ways and methods heretofore known and as described were inefficient, after some thought and experiment I devised a method of securing the desired result with safety and efficiency and have since put it in practice on many occasions. It will afford me pleasure to describe this operation in detail so that any of my *confrères* who may so elect can practice the same.

With the patient possessing a hyper-sensitive throat I first prescribe a course of treatment to reduce the sensitiveness thereof which consists in the half-hourly employment of a gargle of potassium chloras accompanied by the frequnt introduction into the mouth of the handle of a teaspoon which is to be used aternately as a tongue depressor and as a soft palate elevator. In this way generally in two weeks or so the quite sensitive throat becomes tolerant to the presence of instruments. At an appointed time I apply a solution of cocaine 10 per cent. with phenol 5 per cent., which produces some anæsthetic effect, and by its bitterness tends to detract the patient's attention from the pain incidental to the operation. I employ three electrode points, two being bent at right angles to the shaft so that by reversing the electrode I can have a point bent either above, below, to the right or to the left as I may require. The third electrode point is very slightly curved and is likewise reversible. They are made of No. 24 guage platinum wire and will heat quickly. I use a current about 50 per cent. stronger than is required to produce a white heat of the electrode in the open air so the most brief pressure on the contact button will thoroughly heat the point and if left in contact for more than two seconds of time *in the open air* would probably produce fusion thereof.

Such a point and current as described will in use in the tissue give the least pain with the best and most rapid results. During the operation the tongue depressor must be employed and it occupies the patient's mind to have that instrument in charge. My first step is to dissect the tonsil away from its attachments to the pillars generally entering the appropriate point cold, heating and burning out. For the upper portion of the pillars I use the point bent downward and work in that direction. For the lower portion of the pillars I sometimes reverse the same point and work upward. The point being entered cold and serving as a blunt tenaculum the tonsil is lifted out toward the median line when the point is heated and burns its way out. Only a little is done at a time. The side attachments having been released I next grasp the tonsil near its upper end with a suitable forceps, lift the same forward and with the heated bent point dissect the tonsil little by little from its attachment below to the pharyngeal aponeurosis. The operation is of course somewhat tedious and requires from fifteen minutes to possibly one hour's time. From five to twenty seconds' work is done at each attack, the remainder of the minute being lost by the patient resting. Unless the patient is restless so that the electrode is caused to tear instead of burn through the tissue there is little or no hemorrhage. I have in some cases lost less than twenty drops of blood and in no case has the hemorrhage probably exceeded one ounce. The most difficult part of the operation is in getting the upper end of the tonsil loosened. It is then easy until the lower end is reached by which time the loosened portion drops over onto the tongue producing nausea. The principal points in the operation consist, firstly, in never operating while there is present a condition of acute inflammation; secondly, in constantly lifting the tonsil forward toward the median line while working; and lastly, in working slowly and doing but little at each stroke with a thoroughly heated point which will always burn its way through the band of tissue engaged. I have also with satisfaction done this operation as described for the removal of the indurated base of a tonsil remaining after a tonsillotomy.

Immediately after the operation I have latterly been making a thorough application of "Eisen Glycerine" (a German preparation much used in Vienna, and consisting of equal parts of tr. ferri chlor. and glycerine), and have found it to be efficient in tending to prevent as marked inflammatory reaction as frequently occurred prior to my adopting its use. I repeat this application daily for the first week, providing the patient calls at the office.

Succeeding the operation for a few days the throat is quite sore, which condition I combat by directing the frequent use as a gargle of a saturated solution of the bicarbonate of sodium, and for the first two or three nights the employment of the wet pack about the neck. If in twenty-four hours after the operation the inflammation has become quite pronounced and annoying, I prescribe a mixture composed of tr. of iron and chlorate of potash in glycerine—one dose containing from 6 to 12 minims of the iron and about 4 grains of the potash—every two hours, and have in

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some cases prescribed this at the start as a prophylactic, with apparent benefit, and I might remark here, incidentally, that this mixture also has a beneficial influence upon the gastric catarrh, clearing the tongue and improving the appetite.

After the first few days, in place of the gargle of soda, I substitute a saturated solution of potassium chloras, and have, in some cases where this was disagreeable to the patient, given instead a gargle of diluted tr. of myrrh, of the strength of about one-half drach of the tr. to the ounce of water.

The amount of annoyance produced by the operation differs in different cases, being influenced in a measure by the size of the remaining wound, though to my mind is more dependent upon the idiosyncrasy of the patient. In the several cases in which I have performed this operation, I have not had reported any marked febrile disturbance, though in several cases the local inflammation has been considerable. At a given seance but one tonsil should be removed, and generally about two weeks should intervene between operations. In a few cases, owing to the restlessness of the patient, the tonsil being operated upon was not completely removed at the first sitting. In such cases the operation was renewed at a later period, after the throat had become thoroughly healed. I have generally found the first operation to be of more annoyance to the patient than has been the one or more succeeding operations. As a result of this operation, I have found that the post-nasal catarrh is almost invariably benefited, and also that when in connection with the post-nasal catarrh there is a slight degree of middle-ear deafness, the acuteness of hearing has been intensified. I also find the condition of pharyngitis improved, and in cases wherein there is neither stenosis of the nasal passages nor a condition of atrophic rhinitis, there follows an improvement in the dyspeptic symptoms with a general improvement of the health. In singing, the voice is found to have become clearer and more powerful in the high notes, and is not succeeded by hoarseness as before. Furthermore, the possibility of future attacks of tonsillitis is averted. While the operation is not pleasant to undergo, the general report is that the pain is not so severe as would be expected, and that the most disagreeable feature thereof is the difficulty of combating the tendency to nausea. No patient as yet after the first operation when both glands were diseased, as is generally the case, has failed to solicit the removal of the remaining tonsil.

Between operations, after the first tonsil has been removed, the general report is that there is a sensation of more room and comfort on the side which has been operated upon when compared with the opposite side. While to the uninitiated this operation might seem quite heroic it is certainly not productive of one-half the annoyance and pain that is given in following the treatment by caustics as chromic acid or London paste, both of which have been employed.

In this or any other operation upon the tonsil, owing to its proximity to the carotids, it is wise to consider the possibility of serious hemorrhage. The approximate distance from the tonsil to the external carotid is ¾ of an inch and to the internal carotid is ½ inch, which distances may be materially increased by traction upon the tonsil owing to the free supply of loose cellular tissue posterior thereto. Bleeding after tonsillotomy is more to be feared from wounding the smaller arteries in that region, particularly the tonsillar or ascending pharyngeal. I personally do not regard the danger from hemorrhage in the operation described to be any where near as great as when the tonsillotome is employed, which from its nature can only be employed when the gland is pronouncedly hypertrophied and projecting.

Furthermore, in the small diseased tonsil described for the treatment of wnich I advise electro-cautery dissection owing to its small size the blood supply is not so great as in case of the more hypertrophied tonsil and the small vessels when divided by the hot point are at once sealed. The operation completed the wound is protected by a seared surface which it would seem would be far less likely to permit of the entrance or absorption of anything pernicious than in case of the open wound after tonsillotomy. From four to six days after the operation, as the slough begins to separate, there is a slight secondary hemorrhage, the amount of which is largely dependent upon the vigor with which gargles have been employed. In acute-parenchymatous tonsillitis, when prompt escape is not given to the imprisoned pus, it is prone to burrow in the adjacent cellular tissue, and, when neglected, has produced perforation of a large vessel followed with profound hemorrhage. Such a result I do not believe to be possible from the operation which I have described as the remaining wound is large and open, insuring good drainage and precluding the possibility of such dangerous result. In healing by granulation there occurs a filling up of any small or irregular depressions resulting from the operation so as to give an even surface and I have never as yet seen any cicatricial contraction resulting thererefrom.

703 Opera House.

Dr. F. E. Waxham: Mr. President, I have had no experience in this method of treatment, believing that the results hardly justify the risks. There is no little risk, in the deep dissection of a tonsil scarcely larger than normal, of severing the internal carotid artery. The pain must be considerable especially where the solution of cocaine is simply applied to the surface of the mucous membrane and the cicatrix that results must certainly give rise to as much irritation as the very slightly enlarged tonsil. I should very much prefer in these cases to simply destroy the follicles by the introduction of the heated electrode into each one. This method of treatment has been highly satisfactory and we thus avoid all danger and leave no deep cicatrix to be the source of further irritation.

Dr. Robert Tilley: Mr. President, I intended to make a remark similar to that of Dr. Waxham. I do not see how a portion of tissue of that extent can be removed without a cicatrix. The result must be cicatricial tissue no matter how delicate it may be. I would correct the evident mistake on the part of Dr. Waxham about an electrode being applied at white heat; the Dr. stated that he used electricity of such force that when the electrode was heated in the open air there would be a white heat; this, however, would not be the case when introduced into the tissue as it takes up the heat very rapidly. As to my own practice in the use of the electro-cautery in the nose and throat I use it as little as possible. Wherever I can use the knife or dissect out the offending part by any means I prefer to do so; whenever I can take off a

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piece of swollen tissue in the nose with a snare I prefer to do it. My experience is that the after treatment is nothing like so disagreeable where the tissue is dissected out or removed with the snare or knife and I would prefer to remove such tonsils as described by a kind of enucleation process. As far as the experience of the Dr. in the last specimen he referred to, is concerned, I may say that I had an experience in my own person about six months ago which corresponds exactly to his. I had a carbuncle on my neck and I went to a surgeon and asked him to open it for me and at once make use of the electrocautery and burn it out, but he did not choose to do it. I then went to some one else and he cut away all that he could with his scissors and then burned it out. It required no further care, only simple dressing.

Dr. Frank Billings: I would like to ask those discussing Dr. Pynchon's paper, if their attention has been drawn to the injection of iodine into the tonsil. I was talking the other day with a physician from the country, who has an extensive practice, and in speaking on this subject of hypertrophied tonsil, he said he invariably injected, hypodermically, a strong tincture of iodine, in those cases, which caused little, if any pain, and he always cured them. Children were injected without crying or paying much attention to it. It causes contraction of the hypertrophied tonsil. He has had so much success with the method that he rarely uses the tonsilotome.

Dr. Edwin Pynchon, in closing the discussion, said: Mr. President, Dr. Tilley has already answered Dr. Waxham very nicely; while my electrode will heat to a white heat in the open air, it only heats in the tissue to probably about a dull red.

As regards the external carotid to which Dr. Waxham alluded, I have been to some little trouble searching through several authorities, to find out the exact distance of the two carotids from the tonsil, but owing to the fact that our anatomies are not provided with topographical plates I have met with difficulty. I estimated it to be nothing less than one-half inch, and have since found in Delavan's article on the tonsil in the Reference Hand-Book of the Medical Sciences, the statement that it is three-fourths of an inch from the base of the tonsil to the external carotid and one-half inch to the internal.

I want to call attention to the fact that in the operation described I pull the tonsil forward toward the median line, and thereby increase the distance probably one-half inch. The patients certainly have not complained very much of the pain, which has never been so annoying as to cause them to fear to come back and have the remaining tonsil removed when both were diseased. Furthermore, I think that the pain probably is greater as the mucous membrane is being cut, than when the body of the tonsil deeper down is being dissected out. It is the periphery of the nerve that is the most sensitive.

In reply to Dr. Tilley's remark, in regard to the last operation mentioned, there will of course be cicatricial tissue resulting from the operation, but the difference is it will be soft in place of the very indurated cicatricial tissue removed. Another reason why the base of the carbuncle was so annoying to the patient was the fact that at three or four different points a half dozen hair follicles had been merged in one, causing a constant irritation with more or less secretion. The irritation was so great that the patient was precluded from wearing an ordinary linen collar.

Replying to Dr. Hoadley's remark concerning the tearing out of the tonsil, I would say that applies readily to the large hyperplastic tonsil, but does not apply to the small hypertrophied tonsil with which the paper purports to deal. The kind of tonsil met with in children is what is known as hyperplastic. The hypertrophy consists in the enlargement of the connective tissue of the tonsil, while the kind with which the paper deals is that wherein the lacunæ and follicles are increased in size and the connective tissue is not materially hypertrophied. I have used cocaine considerable in nasal work and do not remember of seeing but three cases which were unfavorably influenced by the remedy and then only when applied in the nasal passages. I have never seen any unfavorable influence from the application of cocaine to the pharynx in the way which I have used it.

Tonsillotomy by the use of the scissors is applicable to the hyperplastic form, but it is not so readily applicable to the form of hypertrophied tonsil which I have described.

In regard to the employment of tincture of iodine hypodermically I will say that I have never used it, but for physical reasons I would assume that it would be more applicable to the hyperlastic variety than to the kind of tonsil described in the paper.

Another question brought out by Dr. Waxham was in regard to the propriety of removing small hypertrophied tonsils. I have taken the ground that whenever diseased the indication is to remove; and in connection with this I will take the privilege of reading an extract from an article on the third tonsil, by Dr. Joseph A. White, which appeared in the *Journal of the American Medical Association*, Oct. 3, 1889. He says:—

CHICAGO, Oct. 20, 1890.

Dr. Robert Tilley read a paper on *Prophylaxis of Ophthalmia Neonatorum.*

In 1876 a German congress of the teachers of the blind, assembled in Dresden, devoted its attention to the subject of ophthalmia neonatorum, and realized how important a factor it was in the cause of blindness. The result of this convention was that the study of this question was recommended to the special attention of all persons who could contribute to its correction. From this time the study of the best means of prophylaxis of ophthalmia of the newborn occupied the attention of industrious, capable and philanthropic men. When we reflect that this disease contributed as many as forty per cent of the inmates of some of the institutions for the blind we only wonder that the subject had not previously called forth the spirit of practical investigation. It would be the most flagrant waste of time were I to stop to talk to members of this society of the privation and distress associated with a life-long blindness, or of the necessity of watching any possible source of contribution to such an affliction. No arguments on this subject can possibly be necessary. To a certain extent our honor as medical is associated with the question of the relative number of blind in the community, and I believe that in proportion as we duly understand and appreciate the importance of this subject in its various relations, the proportion of blind from this source will diminish until blindness from this cause will be practically unknown.

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I said that forty per cent of some of the inmates of certain blind institutions were the victims of uncured ophthalmia neonatorum, but it must not be inferred that forty per cent of all the blind are blind from this cause. It is of course almost impossible to obtain exact figures on this question; but from a very careful computation made by very competent men on 2528 blind individuals, it appears that about 10 per cent of all the blind are blind from this cause. These statistics were obtained from the observations of men of unquestionable ability and honesty, and whilst different countries must necessarily suffer in different degrees from an affection of such a kind, we may without exaggeration accept 10 per cent of all blind persons up to the year 1870 as being blind from ophthalmia neonatorum.

When this subject was brought prominently before the profession, many men, whose names it is not necessary to mention, devoted their attention to the development of the necessary measures to remedy the evil. By some the chief care and attention was directed to the irrigation and disinfection of the vaginal canal immediately preceding the act of birth, and by these means the former percentage of babes afflicted with the disease was by different individuals variously diminished; but even with the best of care there remained in the institutions where the observations were made 2.5 or 2 per cent afflicted with ophthalmia neonatorum, when the efforts of the observers were confined to antiseptic washings of the vaginal canal and the ordinary care in cleansing of the babe's eyes. Credé, of Leipsic, however directed his attention not to the vaginal canal, but to the eyes of the infants, and by his attention the affection is said to have practically disappeared from the institution. According to the statistics of the Leipsic Lying-in Institute in the year 1874, the percentage of infants which suffered from ophthalmia neonatorum was 13.6 per cent; in the first half of 1880 the number was by greater attention to cleanliness reduced to 7.6 per cent, and from that period the disease practically disappeared by the adoption of Credé's method of prophylaxis.

Credé's method is as follows: As soon as the cord is tied, the child washed and the eyes cleansed with clean cloths and plain water, each eye is slightly opened and, by means of a glass rod, a single drop of a 2 per cent solution of nitrate of silver is dropped into it. No further care is necessary. Credé assures us that no child so treated showed any signs of ophthalmic neonatorum within seven days after birth, not even in the slightest degree. No disadvantage followed its use; only in a premature babe was there some serous swelling, with some secretion, but which disappeared completely in 48 hours. The lying-in institution in Leipsic affords sufficient cases for generalization—averaging in round numbers about one birth a day.

These are brilliant results, and, according to journal reports, the claims have been sustained by other observers in different countries with practically corresponding results. When on my way to the Berlin congress I determined to try and ascertain in a very general way to what extent the practice was adopted in some of the Lying-in Institutions: In New York, to the Maternity Hospital I failed to gain admission. I was permitted to see the penitentiary and the general hospital on Blackwell's Island, but I was not admitted to the maternity department. In the Rotunda Hospital in Dublin I was received with the greatest courtesy. I learned that when the publication of Credé was first made the method was there adopted, but on account of a certain amount of irritation and from the fact that the history of the hospital showed a relatively small amount of ophthalmia neonatorum, the process was abandoned. In Paris I visited the Clinique des Accouchements for the same purpose, and there, also, I was received with all the courtesy that any one could wish. There the method of Credé had been adopted, but, after a trial, the solution was reduced to 1 per cent. It was found that irritation occurred in too many cases. At that time a 1 per cent solution was used, but that ophthalmia neonatorum had not disappeared was clear, because I was shown four cases then present, all of which were well cared for and clearly on the way to complete recovery. In Germany, strange to say, the subject escaped my memory. In an organization in Liverpool which sends out qualified midwives to attend the poor, the plan had never been adopted. I know nothing of the practice in Chicago beyond the limits of St. Luke's Hospital. Credé's method has never been adopted there. The custom with the nurses is immediately after the cord is tied to cleanse the babe's eyes and the contagious parts with clean cloths and water as the first part of the general bath, and in no case to neglect the eyes in case the general bath should for any reason be dispensed with for a time. They are requested never to use on the eyes the cloths which have been used on the body in general. They are also instructed to report promptly any undue photophobia and any redness or swelling. No remedial measures are adopted unless positive indications of disease are manifest.

I have been told that some teachers in Chicago advocate the universal use of the nitrate of silver solution as adopted by Credé in the hospital. This, however, I know only from reports. I shall be glad to hear from others what the practice is.

But whatever the practice of others may be, whether at home or abroad, the only way to practice medicine efficiently is by the vigorous application of reason to our own existing surroundings. The facts which present themselves for our consideration in this study are as follows: In hospital practice it appears that from 5 to 10 per cent of infants are afflicted with ophthalmic neonatorum; that, as a result of this, one in about 11,000 become blind; that a certain number impossible to estimate are blind in one eye and others disfigured with a leucomatous condition of the cornea and corresponding defects of sight.

Again we have this fact to consider—that ophthalmic neonatorum when properly and early taken in hand is very manageable and rarely results in either loss of vision or deformity. Of course if the cornea is sloughing before it is taken seriously in hand deformity and defective vision are sure to follow, but the cornea does not slough until the affection has existed for some time and been neglected.

It is stated that one drop of a two per cent solution of nitrate of silver is no disadvatnage to those who are not afflicted. This point, however, is not by any means universally conceded and certainly any one who tries it, will not ask for its reapplication as a source of pleasure.

Are we then justified in applying promiscuously the nitrate of silver solution to every babe's eyes in order to prevent a possible difficulty from occurring

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in 5 or 10 per cent of them. In other words are we to inflict a punishment, however slight, on the infants of 90 or 95 per cent of women who are not afflicted with gonorrhœa in order to save the remaining 10 or 5 per cent from a disease, which when promptly taken in hand is very manageable. To this question I should emphatically answer, no, we are not just in adopting such measures. And I do not think it desirable.

The more conservative plan would be to ascertain previous to or at the time of labor if there has been a history of leucorrhœa and if there has, it would then be desirable to adopt the plan which has proved so eminently successful in Credé's hands. I should consider that in country practice this would be almost the only means which would satisfactorily meet the difficulty. It may be that in this way a few may be subject to the nitrate of silver application, which would have escaped ophthalmia neonatorum, but the probable advantage would more than compensate for the discomforts.

Dr. Jonas Newberg: Mr. President. As Dr. Tilley was prevented from investigating the methods of procedure as employed in the Maternity Hospital, and as I was an interne in the Charity Hospital, perhaps I can give some information on this subject. There they used a modified Credé's method, that is, they first washed out the eyes with a four per cent solution of boracic acid and then dropped in a few drops of a two per cent solution of nitrate of silver. While I was an interne we had only four or five cases of ophthalmic neonatorum in the newborn child. We ought to make a sharp dividing line between a gonorrhœal and non-gonorrhœal affection;and I think in these cases, the only way you can do it is by means of a microscope. In those cases where it is gonorrhœal it is a rather severe affection to treat, unless you meet it immediately, and therefore it is decidedly necessary to make a prompt diagnosis. As regards the preventive measures; gonorrhœa in the female attacks principally the cervical mucous menbrane and the urethra and the glands of Bartholin and neighboring glands in the vulva; the preventive measures would be to douche with bichloride, or any preferable antiseptic but this would not reach the cervix and it certainly would not wash out the glands of Bartholin or the urethra. The greatest danger in cases where these parts are affected is, that the secretions are squeezed out when the child's head is on the perineum, therefore the practice in these cases is simply to irrigate this portion. If the cervix is involved I do not think you could by any preventive measure prevent the child getting this affection, because it is almost impossible to cure, or render the gonorrhœa affecting the cervical portion of the uterus non-contagious.

Dr. Henry Gradle: Mr. President, I may be able to supplement some of the statements of Dr. Tilley as to German Hospitals. As far as I have been able to follow the matter from reports, none of the German Maternity Hospitals ignore the subject and the great majority of them follow Credé's method. Some of them have used a corrosive sublimate solution 1-1000 instead of nitrate of silver, and it is generally conceded that this is not a satisfactory substitute but it is far better to use corrosive sublimate than not to use anything. Dr. Tilley stated that nitrate of silver caused some irritation, which is so, but the irritation seems to be so trivial that it ought not to deter us from using the solution where there is any good reason for applying it. No case has yet been published from any of the hospitals where nitrate of silver did any permanent harm. It is only a matter of a few hours or at most a few day's swelling of the lids, with scarcely any suffering to the child. Dr. Tilley's suggestions to use it only where there is a clear history of leucorrhœa, might suffer from this disadvantage, that gonorrœal affection in the female does not necessarily lead to a leucorrhœal discharge, while a leucorrhœa is very frequently non-specific. And as we can never be certain whether in a given case there is a remote history of gonorrhœa in either of the parents, it would be perhaps the wiser plan to follow out this method in general practice among the poorer classes, where the disease is much more common, or at least much less treated, and, therefore, more apt to be chronic than in the classes of patients who are in a position to take better care of themselves.

Dr. Boerne Bettman: Mr. President, while assistant in Heidelberg, I had an opportunity to treat a great number of these cases, which were sent to our clinic from the Maternity Department. We had also a number of cases of gonorrhœl ophthalmia. The method employed in the hospital was not exactly Credé's method. We simply used a 4 per cent solution of boracic acid cleansing the eyes with it immediately after birth. I do not think at that time Credé's method was universally adopted in Germany. In the Cook County Hospital I have very few of these cases to treat, and I the other day inquired of one of the internes whether they used a preventive method similar to Credé's, and he replied that they did not, but depended entirely upon antiseptic vaginal injections used several hours before the birth of the child. During my service of one year there, I had had only two cases of blenorrhœa neonati to treat. I do not know the exact number of births in the hospital, but I should think it was seventy five or one hundred a year. It is claimed by a number of observers that the gonococcus is found in the majority of eyes affected with this complaint. Oppenheimer of Heidelberg, made some observations a few years ago and found the germ in I think fully 33 per cent. His observations were made in the hospitals of Germany, and possibly were only among the poorer classes, who come there at the time of labor. I believe the method is a good one and think it would be well if it were universally employed, because I fully agree with Dr. Gradle that a 2 per cent solution of nitrate of silver in the quantity of a drop is entirely harmless.

Dr. C. D. Wescott: Mr. President, I am still in general practice, although I do a little eye work. It has been my custom in obstetric practice among the poorer classes to use the nitrate of silver in the eyes of the newborn babe. I do not do it in all cases, but wherever there is a history of *any* vaginal discharge I personally wash the lids with a little clean water, and then drop in a drop or two of the solution of nitrate of silver in each eye. I have, however, used a weaker solution than the one suggested by Credé. The solution I use is only one-half of one per cent, two and a half grains to the ounce. I have not had a case of inflammation of the eyes of a newborn babe that did not yield to simple treatment.

Dr. H. M. Starkey: Mr. President, a question was asked in regard to the teaching of the schools here. I can answer for Prof. Jaggard. He does emphatically

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recommend the use of Credé's method in each case. I happen to know of some cases where he thought there was no trouble and did not use the method and where trouble has arisen, so he now recommends its use very emphatically, and, I think, also uses the method in Mercy Hospital. I know that I cannot remember in five years of a single case of ophthalmic neonatorum being treated in Mercy Hospital which originated there. Personally, I am coming more to think that it is a wise precaution to use nitrate of silver in all cases, because you occasionally get these cases that turn out so disastrous. I cannot think, as was stated, that these cases are always so easily treated, even when attended to early; that is if by early is meant after one or two days. It seems that if treatment is instituted before inflammation arises the trouble may be prevented. It seems to me that we should make a positive distinction between cases of non-gonorrhœal and gonorrhœal origin; that cases of gonorrhœal origin which have only commenced to have a purulent secretion; only been showing redness for a day or two, with the best means of treatment with which we are acquainted will prove fatal to the eye in quite a large proportion of cases. I do not know that I have treated them less efficiently than others, and yet I know that in a certain number of cases in adults or children, in which the gonococci are found numerously—hospital cases where they have constant attention and nursing — a large proportion have resulted in sloughing the cornea, and to guard against this it seems to me when there is no decided objection to the use of nitrate of silver it is better to employ it.

Dr. W. F. Coleman: Mr. President, Oculists are sufficiently aware of the dangerous character of ophthalmic neonatorum in certain cases. I have had a very satisfactory experience. The experience is never unsatisfactory unless the cornea has been seriously involved in necrosis; up to that stage it is a manageable disease. The recuperative power of the cornea in the infant is marvelous. I have seen half the cornea slough, and yet the child have sufficient vision to pick up a pin; but notwithstanding this, ten per cent of the blind are so we are told, from ophthalmia. I conclude that with such serious results we ought to adopt any prophylaxis which does not produce harm. I would decidedly advocate the employing of a prophylaxis, but I do not think a two per cent solution of Arg. Nit. is absolutely necessary. For the treatment of ophthalmic neonatorum in the severe stage I know of no better remedy than nitrate of silver. Iodoform, mercury, boracic acid and carbolic acid are used. I have tried each of these remedies in one eye and applied nitrate of silver in the other eye, and the silver has the more quickly effected a cure. Now, since a one per cent solution of Arg. Nit. can cure a case when the pus is secreting freely, it is a sufficient strength for prophylaxis. It has been suggested here to apply silver only as a prophylaxis, but we need not confine ourselves to such an unpleasant remedy. If boracic acid is applied every half hour for a few days in which there is most danger of attack, and the patient escapes that long, the disease is not at all likely to occur after that. Iodoform may be applied, ten per cent in vaseline, or perchloride of mercury 1-5000 and these may be applied frequently without any unpleasant result to the infant.

Dr. George Webster: Mr. President. Although I am not an oculist I have attended a good many cases of obstetrics. I have been called upon to treat a number of cases for this affection. In the last seven years I have seen from three to six cases a year certainly, I have found that it is well in a large percentage of these cases to apply the nitrate of silver at least once. The secret of the whole matter, as suggested by Dr. Coleman, is that if after the application of the nitrate of silver we get a free discharge we should use a solution daily, of say, 1-6000 of corrosive chloride and have it applied at least every half hour, giving the nurse instruction to thoroughly cleanse the eye every time any pus appears. If this is done there will be no sloughing of the cornea. The eyes should be kept absolutely clean night and day, and if that is not done it has been my experience that these cases are not so tractable as we might be led to suppose. I have seen cases where every precaution has been taken yet within two days the eyes would be brimming full of pus, and would fill up again, often in fifteen minutes after they were thoroughly cleansed. If the discharge becomes profuse these solutions must be applied frequently if we wish to save the eyes.

Dr. Billings. Do you use it as a prophylaxis in all cases.

Dr. Webster. Not in all cases, only where I have suspected there might be trouble, but I have never had a case where I used a two per cent solution of nitrate of silver and had the nurse keep the eyes thoroughly clean with frequent applications of corrosive chloride, in which any serious consequences resulted.

Dr. J. C. Hoag: Mr. President, I think Dr. Tilley's paper is a very timely one, because I believe that the general practitioner is apt to be rather careless in this matter. If any further statistics were required as to the value of Credé's method, they certainly might be found in the records of the Vienna hospital. I think the statistics there would cover a larger number of cases than those of all the hospitals mentioned by Dr. Tilley. They have from thirty to thirty-five births a day in that hospital, and as I spent a good many months in the clinic there four years ago, I had ample opportunity to observe the application of the method and its results. The internes informed me that since the introduction of the method they had practically excluded ophthalmia from the hospital. I do not know whether the strength of the solution they used was 1 or 2 per cent. With regard to the rule we should adopt, it would scarcely seem to me necessary to make a cast-iron rule in ordinary practice. I think if great attention is given to cleansing the eyes at birth, in the case of children who are born of women whom we do not suspect of any inflammatory trouble of the vagina, that it would hardly be necessary to apply the solution in every case, but it would at least be the part of wisdom to do so in all cases where we are at all suspicious of the mother.

Dr. Robert Tilley, in closing the discussion said:— Mr. Chairman, I felt like rising to a point of order during part of the discussion inasmuch as the term gonorrhœal ophthalmic neonatorum was really not the point of the paper at all, and consequently when it was intimated that I claimed that one application of nitrate of silver to eyes that were already affected with ophthalmic neonatorum was all that was necessary, I was absolutely misrepresented. I never gave out any semblance of such an idea. The treatment of ophthalmic neonatorum did not come under considera-

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tion at all, but if I had been going to treat that subject there is no question in my mind but that the use of nitrate of silver is incomparably superior to any of the other remedies that have been mentioned.

I would say with reference to bringing forward other statistics that I did not think it necessary. I considered Credé's method complete and satisfactory and that no further evidences were necessary. To me the evidence coming from the Leipsic institution needs no corroboration whatever, and if it were possible to have it universally adopted, I am satisfied that ophthalmic neonatorum would be practically unknown. I did not intimate, or rather I did not state from my own knowledge, that nitrate of silver causes a certain amount of irritation, with the idea that there was an objection to its use on account of this irritation. I also stated that the irritation disappeared in 48 hours; Credé mentions 24 to 48 hours. With reference to the claim I made that these cases, when seen within a reasonable length of time, are very manageable, my own experience so far as it has gone would justify me to the last degree in making that statement. I have treated quite a number of cases and have never had any difficulty with a case that I have seen before the cornea has sloughed. Of course when the cornea has sloughed there is no possibility of restoring the eye. When a child is brought to me with the cornea intact, and I have any fair opportunity to treat the child as I feel it is necessary to do I do not expect any difficulty to arise. We get a number of cases in dispensary practice where the affection has lasted for several days and weeks and sloughing has occurred and then there is no possibility of restoring normal vision.

I would say, Mr. President, with reference to the percentage of nitrate of silver, if we use nitrate of silver at all as a prophylaxis, in my judgment I would adhere most emphatically and strictly to the particular process laid down by Credé. In my opinion he has studied the question thoroughly, and I believe he has settled on a 2 per cent by process of observation. If he has come to the conclusion from his experience that a 2 per cent is the strength desired, I would rather trust to his observation, instituting a possible source of irritation, than to use a one-half or one-fourth per cent with a chance of failure.

Another point is this: The gentleman who was in service at the Maternity Hospital stated that a few drops were used. Credé's method is one single individual drop, and he says it should be dropped from a glass rod, apparently in order to avoid the introduction of more than that. I think that is a wise precaution. I believe that one drop carefully applied as a prophylaxis—not to treat the affection under full sway—would be satisfactory. I remember reading a report made, I think, by Dr. Garrigues, after Credé's paper was published. I had something to do with the *Medical Review* at that time, and had occasion to review Dr. Garrigues' statement, and to some extent criticise it. He gave a very glowing report of the absence of ophthalmic neonatorum, but there was one case in the obstetrical ward that was forgotton, and that was a case of ophthalmic neonatorum in both eyes. The cornea in both eyes sloughed so that the child was blind. To me that seemed a terrible satire on the treatment of cases in the Maternity Hospital. I remember reading some time ago of some place in New York where the method of Credé was in a sense adopted, but they made a departure from it by pouring the nitrate of silver from a spoon into the child's eyes. The absolute impossibility, under these circumstances, of following Credé's method of putting in a single drop is seen at once. If I should advocate any method, I rigorously adhere to the plan published by Credé.

I thank Dr. Wescott for his suggestion, namely, that instead of using the term leucorrhœal discharge, it should be any vaginal discharge. But I would still adhere to the suggestion I made, that the most conservative plan, especially in America, would be to resort to this method only in case of there being a distinct history of a vaginal discharge, and for this reason; we are more liable to suits for malpractice here than they are in Europe, and there are not a few affections existing among infants that in all probability may elude the observation of the practicioner, if ever it comes to the parents' knowledge that the practitioner has put something into the child's eyes immediately after birth, and from any cause whatever the child may be blind, this would in all probability be a source of complaint, of course not justly so, but at the same time of such a nature that the practitioner would rather avoid it if he could. On that ground I would simply use the nitrate of silver in cases where there was some vaginal discharge.

James A. Lydston, M. D., read a paper on *Etiology of Cataract.*

The very meagerness of our knowledge of the causation of cataract renders me bold enough to advance a theory of my own as to its direct causation, and I herewith submit the same to the criticism of my confrères. It is conceded by every ophthalmologist that the formation of cataract depends upon innutrition of the crystalline lens; but few, if any, I believe have gone so far as to trace the cause of this innutrition except in a general way—that is they see a certain connection between a general impairment of the vital functions and the occurrence of cataract, but fail to show why such relationship exists. In order to fully comprehend the theory which I shall propound to you it is necessary that we should understand the peculiar functions performed by a normal physiological lens, and the method by which these functions are carried on, which, of course, all oculists thoroughly appreciate. The crystalline lens is the chief organ of accommodation—i. e., power which the eye possesses of focusing itself for different distances—and is controlled in its movements by the ciliary muscle, and we know that the proper maintenance of accommodation depends upon the tonicity of the ciliary muscle. Now the crystalline lens imbibes its nutriment by the process of osmosis which takes place between the lens, vitreous and aqueous humors,—and I hold that nothing is more rational than to assume that a certain interdependence exists between this process of osmosis and the transparency of the lens, and that unless the ciliary muscle performs its proper sphere in accommodation—if it become less active from any cause—then the process of osmosis existing between the lens, aqueous and vitreous humors is imperfectly executed, and as the lens depends upon the nutritive pabulum supplied by the osmotic action, when there is a lack of supply of the essential elements for the maintenance of proper nutrition, then degenerative changes begin to

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assert themselves and are manifested by a more or less dense opacity of the crystalline, which has received the appellation of cataract.

Nowhere do we find this theory more beautifully displayed than in the changes taking place in the lens consequent upon advanced age. Here we have primarily, as we all know, a diminution of the muscular tonicity of the ciliary muscle at about 45 or 50 years, and in certain instances earlier, the ciliary muscle begins to lose its elastic tone, and as the faculty of accommodation depends upon this little muscle, we note consecutively to its impairment, a gradual waning of this peculiar function of accommodation,and in strict accordance with my theory the lens being deprived of its motor power fails to receive the proper amount of the essential principles to maintain its nutrition (for I believe that the osmotic process is favored by the periodical contraction and relaxation of the lens during accommodation, as in this way a larger surface is constantly presented to the humors, and consequently greater absorbtion and interchange of nutritive materials are continually taking place), and degenerative changes begin to manifest themselves by the nuclear changes characteristic of hard or senile cataract. And I believe that the aforesaid reason can be taken to account for the changes in that type of simple uncomplicated soft cataract found in early life, for here the accommodative power is usually not greatly impaired, and the function of accommodation is maintained with sufficient vigor to perpetuate the process of osmosis and thus supply a sufficient amount of aqueous constituents to keep the lens macerated and soft, and in these cases it is only after years, about thirty or forty, that the constituents of cortical cataract become absorbed and a more or less dense nucleous ensues.

Now let us consider, if you please, the various forms of cataract arising from general disturbance of the vascular system, e. g., diabetic cataract. Here we have a diminution of the watery constituents of the blood which gives rise to an exosmosis of the watery constituents of the lens with consequent loss of transparency followed by calcareous depositions and accumulations of salts, etc. Now, as we all know, diabetic cataract does not, as a rule, occur till during the later stages of diabetes, when the patient's general health is very much below *par*, and here we have another reason to assume that a certain correlation exists between the function of accommodation and the formation of cataract. In traumatic cataract we have either a rupture of the lenticular capsule or an inflammatory condition of the intraocular structures, thus destroying the mechanism by means of which the delicate process of osmosis is accomplished, with consequent ready absorption by the lens of materials improperly prepared for its nutrition and its opaqueness follows.

See, too, how hard or nuclear cataract first begins to show itself, generally commencing at the periphery of the lens in the form of small centripetal stripes between which there may be smaller and shorter stripes at the very margin of the lens, and may remain thus till just about the time when the accommodative power begins to wane, when it will make rapid strides toward maturation. Again, there are authentic cases that have been diagnosticated cataract, and which after years have disappeared, leaving no traces behind. Now, this change can be readily accounted for if we assume that there was a temporary disturbance in the accommodative mechanism, which caused sufficient disturbance in the osmotic functions before described to induce transitory opacities. The fact, too, that senile cataract occurs usually after fifty years, and usually affects both eyes, also points to a causative intimate connection between cessation of accommodation and the formation of cataract.

Furthermore, I believe that this gradual waning of tonicity of the ciliary muscle and the aforesaid consequent failing of the osmotic process upon which the crystalline depends for its nutrition, may be looked upon as a very plausible explanation of the diminution of accommodation which invariably follows as we advance in years, and that while in one instance it is sufficient to induce cataract, in another the process is delayed for years—and, indeed, mature cataract may not assert itself, but be held in abeyance till a fatal issue from some intercurrent affection. In other words, that the deficient elasticity of the crystalline is intimately associated with the lack of nutrition induced by failure of tone on the part of the ciliary muscle, which in turn favors the degenerative lenticular changes before described. The practical application of such a theory, if it prove to be correct, is quite obvious. In order to delay the process of cataractous formations it is only necessary for us to take immediate steps toward the correction of any and all refractive errors which have a tendency to excite the ciliary muscle to extra efforts; and just so far as the glass applied removes the strain upon the accommodative mechanism, the deposition of cataractous striæ will be delayed or even checked. So that it behooves the general practitioner to impress upon his patients the necessity for speedy correction of their refractive errors in order that they may escape in later life the disagreeable consequences of early neglect.

Dr. H. M. Starkey: Mr. President, Gentlemen: I hardly know how to commence a discussion of this paper, as it seems to present so nearly the theory that H. Magnus has advanced. His theory, published in a German Magazine (*Deutche Medicinische Wochenschrift*) in 1888, was that cataract is due to accommodative trouble, and that this accounts for its being more likely to occur in advanced years, and also in those who have error of refraction, particularly astigmatism and myopia. This theory seems a very plausible one. We frequently see how two people will get upon the same theory independently. I have never seen any acconnt of Magnus' theory in American literature; it certainly seemed to explain many phenomena of cataract. Before, we really had nothing particular to build the etiology of cataract upon, except that it was known to occur in old people, and to occur more frequently in those having errors of refraction.

Dr. Henry Gradle: Mr. President: When the means of research fail to elucidate a problem in its entirety, it is well enough to put up some working hypothesis to guide us in future researches, but a theory not based on any collective array of facts and not expounding all the points involved in the different questions is hardly an addition to our knowledge. In this case, the theory lacks a great many points of confirmation, and moreover it does not adapt itself fully to the explanation of what we do know. We do know that cataract is not always the same histological change, that while in senile cataract there is a deposition of amorphous material in between the fibers, on

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the other hand in lamellar cataract there is nothing at all in the free spaces between the fibers, that the loss of transparency is due to separation of fibers and filling up of the vacuum with fluid. So the minute changes in cataracts are by no means always the same. Beyond that I do not see very much to say on the point, as most of the basis upon which the theory is formed is entirely hypothetical.

Dr. Robert Tilley. Mr. President: It is with reluctance that I say anything upon this subject, but it seems to me exceedingly bold for any one to venture upon a hypothesis of this kind without looking up at least some of the admirable work done by so many observers. Decker, of Heidelberg, has done much work and printed a valuable book on the causes of cataract, showing the various changes which occur and discussing the conditions at length. He exhibited remarkable diligence, having kept some cataracts seven or eight years, perhaps more, because he had not the proper means of making sections of them in order that he might study them.

As far as general osmosis, which necessarily takes place in the nutrition of the lens, is concerned, that question has been as fully discussed as possible by Decker and others, who have written on the subject. That cataract is wholly due to the non-action of the ciliary muscles is to me simply absurd.

Dr. James A. Lydston: Mr. President: In response to the gentlemen's remarks in regard to the paper as presented, I would state that it was not without full knowledge of the fact that I trespassed upon fields yet to be adorned by proofs to be established by future investigations made by medical men that I presented the paper, but I do not think it at all bold for any medical man to have a theory and advocate, nor do I respect the intelligence of any man who disputes the right to advance a theory.

So far as the statement of Dr. Starkey is concerned in regard to the theory having been cribbed from some other source, I would state that I knew nothing of the fact that someone else had advocated such a theory. I would state further that it is not so much the action of the accommodative power as the theory of osmosis to which I desired to direct attention. My attention was directed to the theory which I have given you this evening by the process of dialysis. I think we have in the eye conditions for this process of dialysis, that is, the separation of the colloids from the crystalloids. The crystalline lens furnishes the colloid substances while the aqueous and vitreous humors supply the crystalloids and the lenticular capsule answers to the dialytic membrane. I think we have in the theory just advocated a possible explanation of the action of ergot in producing cataract, inasmuch as the ciliary muscle is composed of non-striated muscular fibers similar to those found in the uterus, and it seems probable that ergot acts by exciting the ciliary muscle to increased action, just as it does with the uterine fibers.

Dr. Gradle says it is of little consequence to advocate a theory. I would like to ask upon what medicine is based? It is mostly upon theory; the advocates of theory heretofore were the builders of the foundation upon which we stand to-day. We cannot go beyond it. Hypothetical reasoning is always tolerated, particularly in medicine. There is only one branch of medicine in which there is no hypothetical reasoning, and that is chemistry.

Boerne Bettman, M. D., read a paper on *Traumatic Iridodialysis*.

The subject I wish to call your attention to to-day is one with which, sooner or later, every general practitioner will have some personal experience.

Farmers, laborers, and especially mechanics, constantly using tools and machinery, are at all times exposed to danger resulting either from imperfections and consequent breakage or from the careless use of their implements. Unforseen causes, as explosions, enter largely into the sources of traumatisms.

The eyes which are small and protected by the lids and overhanging roof of the orbits are naturally not as often subjected to traumatic insults as other parts of the body, still the number of instances of injuries to the eye are frequent enough to deserve the term common occurrences.

Arlt divides all the injuries of the eyes into three groups.

1. Injuries produced by sudden compression or concussion of the eye.
2. Injuries produced by the entrance of a foreign body not acting chemically.
3. Scalds and corrosions of the eye-ball.

I will refer only to the first group of causes, and restrict myself principally to that particular change in the structure of the eyeball, known as Iridodialysis.

Concussion of the globe is in a great majority of cases due to a sudden compression of its tissues. The changes exhibited stand in direct ratio to the force exerted by the impinging body, and range consequently in degree from abrasion of the cornea to a rupture of the outer coverings of the eye and escape of its contents.

Shocks caused by sudden compression of the atmosphere, for instance explosions, or direct blows, where the force of an impinging body is exerted at a part distant from the place of contact known as *contre-coup*, do not strictly come under this category.

The inner tissues of the eye are firmly fixed at the posterior pole around the optic nerve entrance, and at the junction of the cornea and sclerotic, called the cornea-scleral margin.

At the latter place of union, on its posterior surface, we find an amalgamation of the iris and ciliary body. To the latter is attached the ligamentum suspensorium, which supports and holds the lens in position between the acqueous and vitreous humors.

Now, when a foreign body indents the eye in one direction, its diameter is dimished in the axis of the force and increased in the meridian at right angles to it. This will cause a sudden flattening in one plane and a corresponding violent bulging in the opposite one.

If the eye were simply a ball of water lying on a cushion of fat, these compressions with the compensating elongations in form, would have no injurious effect, unless the force employed were greater than the elasticity of the membranes.

This simile is applicable to the eye as far as the outer covering is concerned, and the rupture of the latter usually occurs in a plane at right angles to that of attack. Thus, we find that the rupture of the sclerotic is generally crescentic and parallel to the cornea-scleral ring in cases where the force is applied to the front of the eye.

But the comparison is faulty when we consider the inner parts of the globe, the tunics of which, as be-

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fore stated, are attached to and divide its inner area into compartments. Compression here is no longer counterbalanced by bulging. The force is no longer equally expended over the entire area of the organ. There are points of resistance, these being inefficient, more or less damage results to these localities.

Now, the iris is a diaphragm dividing the acqueous chamber into two parts, an anterior and a posterior one. It is attached to the posterior surface of the cornea as well as to the ciliary body and is provided with two sets of muscles—circular contractor and radial dilator.

A blow on the cornea will naturally flatten it and increase the size of the cornea-scleral ring, simultaneously it is claimed, the sphincter iridis contracts, thus stretching the iris and pulling it into an opposite direction. These opposing forces tear the iris loose from its attachment and cause a rent known as iridodialysis, which may present all the degrees, from one hardly perceptible, to complete severance of the iris from the ciliary body.

A rent in the direction of the radial fibers is extremely rare, as is also a separation of the pupillary edge from the body of the iris.

The torn radiating muscular fibers lose their power and are drawn by the antagonistic orbicular muscle toward the pupil, which necessarily assumes a kidney shape.

Another factor connected with iridodialysis is hemorrhage.

The anterior ciliary arteries after penetrating the sclerotic, ramify in the ciliary body, then pass forward, enter the iris and form at its root the large arterial circle.

Hemorrhage of a variable amount in the anterior chamber follows the rupture of these blood vessels and usually conceals the rent in the iris. It is only after the absorption of the blood that the true nature of the damage is revealed. A second pupil is now seen, through which, upon ophthalmoscopic examination, a red reflex is visible. This artificial pupil being large enough, the details of the fundus can be discerned. Still another symptom of iridodialysis is vibration of the iris at the place of rupture. This condition is termed iridodonesis, and is called forth by movements of the eye. It is especially marked when the zonula zeni is torn and the lens is dislocated. This fluttering is due, as you are aware, both to a break of continuity of tissue and loss of support of the iris.

Sanguinous extravisation may also take place in the vitreous chamber as the result of trauma. Hemorrhages from the choroid may be so profuse as to produce a detachment and even a rupture of the retina.

The pathology of iridodialysis was almost unknown until Schaefer of Heidelburg published, in 1884, an excellent resumé of its literature and a detailed account of two cases. He found lesions of the corneal and conjunctival epithelium and cicatrices on the inner surface of the sclera, involving two-thirds of its thickness. The location of the scleral scars indicated that the membrane tears from within outward. In both instances he observed that the membrana descemetis was torn and rolled backward. The torn edges of the eyes were enveloped by newly formed connective tissue completely covering the gaping and well-filled vessels. This membrane was lined by epithelium, originating both from the anterior and pigmented posterior layers of the iris. At the close of this interesting paper he propounds the following questions: "Why are hemorrhages resulting from traumatic iridodialysis more profuse than those following iridectomy?" He satisfactorily solves the query by showing that in doing an iridectomy the scissors, during the act of cutting, bring together the smooth and totally severed walls of the blood vessels. The mechanical irritation of the vaso-meter nerves produces a contraction of the vessels and a favorable condition for the formation of thrombi. Furthermore, the iris, when operated is never severed directly at its root, consequently the arterial circle is not so apt to be injured.

In traumatic iridodialysis, on the other hand, the iris tissue is irregularly torn and bruised at its root, and its vessels gap.

This last state of affairs Schaeffer attributes to a neuro-paralytic condition of the blood vessels, occasioned by the violent shock of the attending body.

Of the numerous cases which have come under my observation I will mention but four, which will serve admirably to illustrate the foregoing remarks and partly substantiate the connection between severe shock and hemorrage.

Case 1. Several months ago Charles P. was sent to me by my friend, Dr. Wetherly. The lad, a boy of nine, had been wounded in the eye by a large sized buck-shot, propelled from a so-called "sling-shot."

The cornea was slightly bruised, the conjunctiva injected, and the anterior chamber completely filled with blood. No other changes were visible. The child was put to bed. Cold applications were constantly applied. Two days later sufficient absorption of the blood had taken place to permit me to establish the existence of extensive iridodialysis.

The applications were gradually discontinued, the eye covered with a compress bandage. During the third day the boy jumped up on the floor. This sudden act was immediately followed by severe stinging pain in the injured eye. On my next visit I found the anterior chamber again completely filled with bright colored blood.

Having had similar experiences before, I advised the parents to remain constantly in the room, to keep the boy quiet and exclude his playmates.

I prescribed frequent doses of the fluid extract of ergot, light diet, and absolute quiet. The patient made a rapid recovery with almost complete restoration of vision.

The eye when last seen appeared normal, but for an oval central pupil, and a slit shaped lower one at the lower cornea scleral margin.

Case 2. For the second case I am indebted to the kindness of Dr. Roller. He asked me in consultation to see Miss B., whose eye had been injured with a rubber ball two days before.

The doctor had been called to see the young lady a half hour after the accidemt, and found conjunctival injection, photophobia and a dilated pupil. He ordered cold applications and an eye bandage. On the morning of the day I saw her she felt a sudden pain in the eye, which gradually subsided, to be followed later on by a tenderness of the globe. I examined her in the evening. The eye was somewhat injected, the pupil dilated, the iris puckered and thickened at the inner cornea scleral margin. A clot of blood perhaps two millimeter broad and four milli-

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meter long, occupied the lower and inner part of the anterior chamber.

An ophthalmoscopic examination showed a normal condition of the fundus. The eye-ball was sensitive to touch in the ciliary region, corresponding to the swollen parts of the iris.

The indications were those of a localized iridocyclitis, paralysis of the sphincter iridis and slight laceration of the iris. Warm applications and absolute rest had beneficial results.

Case 3. The clinical history of the following case is a typical one of renewed hemorrhages into the anterior chamber, accompanying iridodialysis.

Ettie W. was brought to my office by her parents a half hour after having been struck in the eye by a twig hurled from an archer's bow. The skin of the upper lid was slightly bruised, the eyes suffused in tears and sensitive to light. The conjunctiva was slightly congested, the entire anterior chamber filled with blood which had not yet solidified. The eye had only quantitative perception of light. Cold dressings were ordered and the parents cautioned to keep the child absolutely quiet. In the evening the hemorrhage had settled in the bottom of the anterior chamber, occupying one-third of its extent. On the following day it had almost disappeared. I now could observe a tearing of the iris near its root in the outer inferior quadrant.

I was hurridly called on the following evening and again found the anterior chamber half filled with blood. On inquiry I was informed that during a momentary absence of the mother, the child, on trying to climb out of its bed fell to the floor. The pain which followed the fall was, as described by the patient, like a knife cut. The blood was rapidly absorbed. Another hemorrhage, accompanied by severe pain, occurred the next night while the child was tossing in bed.

On examination, the eye proved to be quite hard and sensitive to touch. I greatly feared secondary glaucoma and cyclites. In order to hasten the contraction of the arteries and prevent subsequent hemorrhages, I prescribed frequent doses of fluid extract of ergot.

Both eyes were now bandaged; atropine which had been instilled from the begining, was discontinued and strict rest enjoined. The little patient made a complete recovery without any further drawbacks. The pupil remained oval for some time. The lacerated iris healed and presented later on only a slight irregularity of the striæ.

Case 4. John S. was brought to my department in the Cook County Hospital after having received a blow in the right eye twelve hours previously. Both lids were ecchymosed; the blood in the anterior chamber permitted a dim view of the iris; vision was reduced to mere light perception. The treatment was similar to that adopted in other cases.

Several days later an extensive iridodialysis was visible at the inner border of the iris. Movements of the eye caused an iridodinesis.

The vitreous contained large floating clots of blood. When these broke up and eventually absorbed, I was able to make an ophthalmoscopic examination, and discovered hemorrhages in the retina about the macula lutea region and optic nerve. Through both pupils, the natural and artificial, a reflex from the fundus was obtained. The right eye was blind, the result of a former injury. It showed a dislocated cataractous lens and iridodonesis. The man was dismissed with a lens of 16 dioptries, which gave him vision equal to 20-70.

The treatment of these injuries is very simple. The two immediate contingencies that may result from iridodialysis are iridocyclitis and secondary glaucoma. Extensive inflammation of the uveal tract rarely follows. However, our first measures must tend to combat such a possibility. This is best done by ordering the patient to bed and supplying cold cloths and a compress bandage. It is needless to state that the eye and its neighboring parts are freed from foreign substances, and that abrasions and incisions of the cornea and lids receive our first care. Atropine is usually instilled into the eye. The employment of this remedy is certainly indicated and is fraught with good results where symptoms of irritation and inflammation arise. If the observations of Grünhagen, who maintains that atropine produces a paralysis of the vaso-motor nerve centers, are considered reliable its use is counterindicated. However, this question is still open for discussion. I am in the habit of combining cocaine with it, which apparently produces a contraction of the small blood vessels.

Secondary glaucoma is to be feared only when extensive hemorrhages take place in the anterior and in the vitreous chambers, especially in the latter. To prevent recurrent hemorrhages, cold applications, absolute rest, and the administration of ergot are recommended. Later on, after the paralysis of the arterial coat induced by shock has subsided, and the thrombi plugging the torn vessels become firmer, warm applications will relieve pain due to iridocyclitis and hasten the absorption of the exuded blood.

Dr. W. F. Coleman: Mr. President, I hardly know whether I can discuss this paper within the limits of the author's meaning, so completely as I did the last. The title of the paper is, Injuries to the Eye, and certainly that would admit of a very wide scope of discussion. If I should confine myself to iridodialysis my experience has certainly been small. I have recently had a case resulting from the shove of a horse's foot accidentally given to a young man who was trying to assist the horse to put his foot back over the trace. Two days afterward the anterior chamber was full of blood; the tension was about normal. I could not for a few days afterward see the condition of the iris, and then I found there was iridodialysis of perhaps half a line to a line in diameter and a couple of lines in length in the upper and inner quadrant. The lens was dislocated downward. To treat such a case as that, involved the extraction of the lens. Most authors would perhaps advise leaving the lens alone unless it was producing irritation. I see great objection in leaving such a lens alone, for the eye evidently would not be useful with the lens left in that position. The vitrous would become fluid and the eye so disorganized that it would in all probability set up sympathetic inflammation, so I extracted the lens within two weeks of the injury, by an incision in the upper part of the cornea, and simply by pressing on the lens, it escaped with a small amount of vitrous. The wound healed in a week and when the eye was clear there was seen a result which we sometimes get from a severe concussion without any other lesion of the eye, that is atrophy of the

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disc. This is the only case of iridodialysis I have had recently, which is strictly in the line of the doctor's paper.

CHICAGO, Nov. 3, 1890.

The President, Dr. F. Billings, in the Chair.

Dr. T. Melville Hardie, B. A., M. B., read a paper on the *Local Treatment of Laryngeal Tuberclosis.—A Resume of the work of Heryng and Krause.*

The limits of this article necessitate brevity, and the consideration of the exceedingly interesting and important question of pathology is therefore omitted. It is, however, to be constantly borne in mind that the days of therapeutic nihilism, with regard to laryngeal phthisis, have gone only because of the teaching and requirements of modern pathology. By the application of ordinary surgical principles the local treatment of laryngeal tubercle has become a purely external one, and entirely comparable to that undertaken in tuberculous diseases of the skin and joints. It is possible to alter a fungating specific ulcer with surrounding infiltration into an ordinary benign ulceration, which is given an opportunity to cicatrize. The results of the not very frequent opportunities are detailed in modern laryngological literature.

A very complete paper on the subject is that of Dr. Sedziak, of Warsaw, in the *Journal of Laryngology* (June, July, Aug., 1889). I have consulted it frequently in the preparation of the present paper as a check upon my own observations and recollections. The most notable and stimulating work on the subject is perhaps Heryng's "*Die Heilbarkeit der Larynxphthise und ihre chirurgische Behandlang*," and it is as a review of, and introduction to, this work that this paper is presented. It might perhaps be misleading were the writer to refrain from acknowledging the fact that he has clinically had the opportunity of assuring himself of the correctness of the majority of the statements here made.

It will likewise be understood that this recommendation of local treatment is intended in no sense to belittle the general medical, constitutional, and climatic treatment of the disease which is almost always coincidently affecting the lungs. The two should go hand in hand. The danger has for too long been that the larynx is either over-looked, or treated by a morphia insufflation in the late stages, and the assertion and proof of the four preliminary statements which follow have therefore seemed apposite.

1. The larynx is involved in a large proportion of the cases of pulmonary phthisis. The question as to the tubercular character of the implication will not be discussed in this place. Schäffer found the larynx normal in only 8 out of 310 patients having pulmorary disease. Mackenzie found organic changes in the larynx in 71 out of 100 cases of pulmonary phthisis in the second and third stages, observed at the London Hospital.

2. Primary laryngeal tuberculosis, although rare, undoubtedly exists. Pogrebinski's case,[1] published in 1881, is to me completely convincing. Autopsy showed ulceration of right and left ventriculi Morgagni, of both vocal cords, of trachea. Microscopic examination proved the tubercular character of the ulcers. No infiltration or other changes in the lungs. Other cases in which the conclusion was only reached after microscopic examination are those of Orth[2] and Demme.[3]

3. *Sanatio spontanea* has occurred, but is, of course, extremely rare. In more than 1,200 cases it took place 7 times.[4] Heryng[5] details the miscroscopical examination of a larynx in which a cicatrix was seen. There has been no local treatment. The description is too long for insertion here.

4. Cicatrization has frequently been observed under the influence of local and climatic treatment. Of the numerous cases recorded I shall cite two:

CASE I.[6] P. H., 49 years old, complained of severe pain on swallowing, cough and hoarseness, loss of sleep, evening fever. History was given with a hoarse voice and interrupted by frequent paroxysms of coughing. The present illness began 8 years ago with a cough, which moderated somewhat for a short time in the summer. Ten years ago patient had a cough with bloody sputa, from which he recovered. He has been hoarse for a year, and the swallowing of food has been unbearably painful for several months. Physical examination showed deficient expansion on inspiration. Extensive consolidation of right apex, both anteriorly and posteriorly. The almost puriform sputa contains numerous tubercle bacilli. The condition of the larynx is as follows: Almost complete destruction of the epiglottis, of which there remains only a small, blunt cartilage, covered with granulations; marked swelling of both ligamenta aryepiglott. Extensive crater-like ulcer of posterior wall of larynx, with widely distributed infiltration, and ulceration of both false cords. The only portions of the true cords visible were their ulcerated, uneven edges. General tonic treatment was instituted. For the troublesome cough he received inhalations of morphia, and later of balsam of Peru. Locally applications, with absorbent cotton brush, of cocaine and lactic acid were made. After four weeks there was marked improvement in swallowing with increase of appetite and strength. Patient was then sent to Mentone, where he remained between 4 and 5 months, treatment being continued meanwhile. He gained 12 pounds, the pulmonary condition improved, and the laryngeal ulceration completely cicatrized. Only a thickening and reddening of the true and false cords remained. The patient was seen again six months later. He had recently had a pleurisy of the left side, and was weak. He suffered from evening fever and severe cough. Extensive consolidation was evident in both lungs. The cicatrization in the larynx remained, however, and this was the case when the patient was last seen.

CASE II.[7] A. G., æt. 29, brewer. Family history evidenced tubercular tendency. Hæmoptysis 4 years ago; pneumonia and pleurisy 3 years ago; has been hoarse for a year; swallowing has been painful for 4 weeks; *phthisis pulmonum* (numerous Koch's bacilli in sputa); tubercular ulceration of nasal septum (bacilli).

Examination of larynx: Ulceration of both true cords; on the left, a triangular loss of substance near

[1] Medycyna (Warsaw) 14, 1887; and Heryng, loc. cit., p. 14.

[2] Lehrbuch der Spec. Path. Anatr, 1885.

[3] Inter. Cent. f. Lar., etc., 1, 218.

[4] *Die Heilbarkeit der Larynxphithise*, 1887, p. 175.

[5] Loc. cit., p. 44.

[6] Loc. cit., p. 90.

[7] Heryng, loc. cit. p. 48 et seq.

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the arycartilage is to be made out, and the cord itself is thickened, swollen and red. The upper surface and edge of the right vocal cord are ulcerated. Epiglottis and false cords are normal. In the rimula another ulcer, 1 cm. in diameter; the left cartilage of Santorini and aryepiglottic ligament are markedly swollen and infiltrated (tubercular).

The local treatment consisted at first of applications of cocaine, then lactic acid energetically rubbed in during several weeks. The dysphagia disappeared, the voice improved, the cough became less, and in 4 weeks cicatrization was established on the vocal cords. Some time later, and after curettment, that on the posterior wall also healed. Marked improvement in the pulmonary condition took place coincidently with that in the larynx, and the patient finally considered it unnecessary to come longer. A month later, however, in consequence of an indiscretion, he was attacked by an exudative pleurisy of the right side, which was accompanied by marked dyspnœa and pain upon coughing. A week later thoracocentesis was done, with the removal of half a litre of serofibrinous exudation, which, however, did not materially relieve the patient. There was gradual sinking, concluded by death 10 days after the operation. A careful examination of the larynx was made, the important conclusions of which are briefly noted. The entire preparation exhibited, according to Virchow, old and extensive cicatrization. It was everywhere healed, with the exception of a spot on the left vocal process, about 2 mm. in diameter. Under the scar in the rimula, tubercles were found which Virchow considered a new infiltration. A brief description of a perpendicular section through the cords and sinus Morgagni may make even more clear what we are attempting to prove. In the section the epithelial layer is thickened, but intact. The submucosa under the tissue covering the edge of the vocal cord is infiltrated with numerous lymphoid cells. In the submucous tissue of the upper surface of the vocal cord may be seen a small miliary tubercle, and several tubercles of various sizes are to be made out in the sinus Morgagni and in the deeper portions of the false cord, the cylindrical epithelium of which is everywhere intact. The tubercle consists chiefly of small, round cells, among which are scattered a few epithelioid cells. The perichondrium of the *processus vocalis* is somewhat thickened, and it also is infiltrated with small, round cells. Some miliary tubercles ars situated between the deeply lying mucous glands, and the glands themselves exhibit certain structural alterations. There is an increase of the interacinous tissue.

Having seen that a cure, relative at least, of the larynx is possible, that the troublesome subjective symptoms—dysphagia, difficulty in breathing, hoarseness—can be removed, or greatly alleviated, there remain to be described the methods ordinarily adopted: (*a*) the drugs, (*b*) the surgical treatment.

(*a*)The drugs chiefly used are cocaine, lactic acid, iodoform, iodol, creolin, creasote, carbolic acid, menthol, chromic acid and morphia. About twenty others might be mentioned if cyclopædic completeness were desired. I have seen the best results from the employment of lactic acid, either alone or, in suitable cases, combined with surgical treatment. Directors of clinics frequently affect a particular method to the exclusion of every other. Lactic acid is largely used by Krause, Heryng, and Schrötter. Menthol's chief adherent is Rosenberg, in Fränkel's clinic. Iodoform is employed by Schnitzler and Massei; iodol by Lublinski. We in this country are content to look quietly upon the disputes of the various champions, to remember that it would be unreasonable to expect agreement between Schrötter and Schnitzler, for example, in Vienna, or between Fränkel and Krause, in Berlin. We may with alliaceous recollections be able to see more than one reason for the learned Neapolitan's fondness for iodoform. We may even conclude, after working in their crowded clinics, that it is possible to find a case in which menthol is the only usable remedy; another in which lactic acid can do greater things than any other; still another in which *curettement* is the evident indication.

Lactic acid was introduced into the therapeutics of laryngeal tuberculosis by Krause, who published his results in the year 1885. *This remedy is not indicated in all cases. In some marked inflammatory symptoms are produced which, notwithstanding their subsiding before long, very injuriously affect susceptible or nervous patients. While lactic acid does not prevent relapses, especially when extensive and deep ulcerations exist, its good effect may in the majority of cases be made out; especially when an improvement of the general condition which favors the formation of healthy granulations, is brought about. With attention to the proper selection of cases and the possession of the necessary technical ability, results gratifying to surgeon and patient alike will be the result. For the application of the lactic acid the absorbent-cotton holders of Krause and Heryng are to be preferred to the hair brush, because: (1) they are cleaner, the cotton being burned after using; (2) they admit of more exact localization of the application. In using lactic acid, two or three points require attention:

1. The patient's larynx must first become accustomed to the introduction of the brush.

2. Thorough anæsthesia by cocaine is to be secured (20 per cent with brush, or by submucous injection of ten drops of the following: ℞. Cocaine mur., 0.25; Sol. acid carbol., [2 per cent] 25).

3. The brushing, beginning with a strength of 10 per cent, and rapidly increasing this to 30, 50, 70, 100; must be done quickly, and at the same time with sufficient force.

4. The frequency and strength of the application, depends upon the amount of reaction. It must be repeated until the reactive inflammation has disappeared and the destroyed tissue cast off.

5. It is important to be able to distinguish between scar-formation and ulceration. Krause ascribes to cicatrization after lactic acid the following peculiarities: The grayish, yellow or reddish cicatrix exhibits no noticeable shrinking; it occupies almost exactly the limits of the formerly-existing ulcer, a difference of plane only supervenas later. It is evident that mistakes may easily be made. One sees apparently the hollowing-out of the ulcer, its edge, the same loss of substance, the same contour of the surrounding parts, and yet the ulcer is cicatrized. The differences in the subjective symptoms are, however, marked. There is further a cessation of secretion from the site of the ulcer, and as time goes on, a gradual lessening

*Heryng's *Die Heilbarkeit* etc., p. 82.

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of the surrounding infiltration. A very useful suggestion, however, is Heryng's. He dips an absorbent-cotton brush in a solution of cocaine, and if after pressing and rubbing the suspected spot no blood appears, he concludes that the cicatrix is thoroughly formed.

6. The pain incident to the employment of lactic acid is frequently severe, and occasionally lasting. It must be controlled by the application of cocaine (10–15 per cent), which is usually effective, notwithstanding Rosenberg's assertion to the contrary.

7. Good results have also been obtained from the submucous injection of lactic acid into tubercular infiltrations (Heryng,* Major†). Of the remaining medicinal agents employed, menthol‡ (10 and 20 per cent solutions in olive oil) and iodoform (insufflations and the submucous injections* of a 10 per cent iodoform emulsion), produce the most satisfactory results. My experience with them has been entirely clinical, which may account in a measure for the fact that the most notable improvement so far as I saw, was subjective. For purely palliative purposes in far advanced cases unsuited to sterner measures, morphia (insufflations) will hardly be replaced.

Observations as to the effect of lactic acid have become in the last two or three years very numerous, especially in the older countries, and the still unconvinced reader is referred to Heryng'e work, already quoted, and to the *Journal of Laryngology*, for, let us say, 1889–90.

(*b*) The surgical treatment of laryngeal tuberculosis rests upon solid foundations. It is a rational procedure, as it follows as closely as may be the lines laid down by modern general surgery. The treatment by scraping, etc., of tubercular joints and sinuses is nowadays everywhere recognized, and the laryngologist only attempts to do what is possible in the same direction for the larynx. It is, of course, frequently impossible to remove with Heryng's laryngeal curette, or even with the punch forceps, or so-called double curette of Krause, all of the tubercular deposits in the larynx. The interior of the larynx is not of all places the most easily and thoroughly accessible. Our contention is, that the work done by the curette is in the right direction. It is based on sound surgical principles, and experience has shown the procedure to be as correct in fact as it is in theory. The technical difficulties in the way of its effective accomplishment are not to be urged to its discredit. It is hardly work for a beginner, but it is well that there is something to entail a sufficient facility in the co-ordination of eye and hand, else there would be no use for us—laryngology is not bound up in the compressed-air apparatus and the galvano cautery.

Before describing the operation of curettement, it is perhaps due to Moritz Schmidt, of Frankfort, to briefly mention his earlier treatment (1877) of puncture and incision. His own results were very favorable and the procedure has been frequently employed as a preliminary to the rubbing-in of lactic acid (Throat Hospital, London), as well as alone. It is to be remembered (1) that superficial scarifications do not meet the requirements of the case—the incisions are to be fairly deep. (2) On the other hand, the knife is not to be deeply introduced into the cartilages of Wrisberg and Santorini for obvious reasons. (3) One must avoid the extreme outer border of the ary-epiglottic ligament, as the superior laryngeal nerve has rights worthy of respect.

In certain cases of laryngeal phthisis, lactic acid, while effecting a cleansing of the ulcer, is unable to bring about definite cicatrization. In other cases the scar already formed breaks down. Repeated microscopical examinations convinced Heryng that the return of the disease is dependent in great measure upon the difficulty of removing completely the deeply situated tubercular infiltrations and depots in the submucous tissues, in consequence of the interference of granulations, hypertrophies, and connective tissue products. A case of limited tuberculosis of the tongue gave him an opportunity of watching the effect of more radical treatment. As a result, curettes for laryngeal work were constructed. I shall give Heryng's account of his operation, which has not been, so far as I know, described in English.

After thorough anæsthesia (cocaine) the instrument is introduced and pressed into the pathological tissue to be removed. This is done by a firm upward movement. Rapid repeated scraping motions are, of course, to be avoided, as they would be useless, and the instrument is constructed for the removal of more deeply situated tissues. For the large finger-like outgrowths on the posterior laryngeal wall, a three-cornered curette is useful. Ordinarily, several portions of tissue may be removed at one sitting. We must, however, be careful to note before each introduction of the instrument that the anæsthesia is profound. The posterior wall of the larynx, the false cords, the inner surface of the arytenoids, and the lower portion of the epiglottis, are the most suitable for curetting. The true cords and the upper part of the epiglottis, because of their yielding character, cannot be treated in this way. It is likewise impossible to scrape away granulations and infiltrations of the upper surface of the posterior wall, and for their removal the double curette is the most suitable instrument.

The fundamental requisite in the surgical treatment of certain forms of tubercular affection is the removal of *all* diseased products, *i. e.*, tubercular masses situated in the mucous or submucous tissues, the products of hypertrophy and sclerosis, as well as the portions of the cartilages affected in this way, when this is technically possible. We are to endeavor to limit the tubercular infiltration in the initial period, to prevent both its extension and its breaking down; and in the case of recent disintegration, to localize it and to clean the ulcers. Inflammatory swellings and hyperæmias in mucous membrane and perichondrium must, if possible, be avoided; in short, our aim is to be to convert a tubercular into a benign ulcer.

The description of the operation as above given refers to that with the single curette. The modification necessary when employing the double curette will be evident to all who have had any experience with ordinary laryngeal forceps. As illustrating the results of curettement, followed by lactic acid, in competent and enthusiastic hands, Krause's figures, quoted from the May (1889) number of the *Therapeutische Monatshefte*, may be cited. Seventy-one cases, 58 in his clinic and 13 in private practice, were treated between 1885 and 1888. Of these 43 (32 dispensary, 11 private) were discharged as "cured," or very much relieved, and

* Loc. cit., p. 150 et seq.
† *Canada Medical and Surgical Journal*, Dec., 1886.
‡ Rosenberg, *Therapeutische Monatshefte*, 1888, Heft 7 u. 8.

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free from laryngeal trouble. In 6 cases the cicatrization lasted from 2½ to 3 years; in 2 for 2½ years; in 4 for 2, in 8 for 1½ to 1¾, in 5 for 1 year, in the remainder for less than one year. Of the 43 cases, 28 were well in May, 1889; of 8 nothing was known; 7 had died, but not of laryngeal disease. Of the 28 uncured, 8 were dead, 8 had ceased attending, 12 were still under treatment. Heryng's results,* recorded in the mine from which a great part of this is taken, are likewise satisfactory. In a total of 16 cases treated exclusively by the surgical method, complete healing was attained in 12, and considerable improvement in 3 others.

Tracheotomy has been strenuously advocated, and as emphatically condemned. It has, of course, been used for many years to prevent threatened suffocation, but its most ardent advocate in recent years, Moritz Schmidt,† recommended it as something other than palliative. It is contended (and correctly) that the larynx is given needed rest, and that (even where symptoms of stenosis do not exist) if extensive laryngeal implication co-exist with slight or stationary pulmonary trouble, the operation should be undertaken. With the second statement the majority of laryngologists refuse, I think, to concur. Symonds,‡ in speaking of this recently, relates a case in which the pulmonary process was lighted afresh by a tracheotomy, which he performed for extensive pharyngo-laryngeal tuberculosis.

The most recent suggestion is electrolysis, but observations as to its effectiveness have as yet been comparatively few. Heryng secured good results in 2 out of 5 cases, one of the two having been previously unsuccessfully treated with lactic acid. The electrolytic method appears to be particularly indicated in the earlier stages of laryngeal tuberculosis, when the infiltration is more or less localized. I have as yet had no opportunity of testing the value of the procedure, and shall quote Dr. Mermod's description,§ objecting only to the large amount of cocaine used on the tongue, soft palate and pharynx, as being unnecessary and dangerous. This, he says, should be freely painted with a 20 per cent solution of cocaine. The larynx should be swabbed with a gramme of cocaine dissolved in one gramme of water. 0.03 gramme of cocaine should be injected (by means of Heryng's syringe) into two points of the laryngeal mucous membrane. The operation consists in the insertion into the infiltrated tissue of long, fine-pointed needles, connected with the negative pole, the positive electrode being placed on the side of the neck. The needles are kept *in situ* for from two to four minutes (strength of current is not mentioned), and then remove to another spot, the procedure being repeated five or six times at a sitting. There is no pain or hemorrhage. For fifteen days the local condition may appear to be worse, but subsequently, after two or three séances, the infiltration becomes less, and healing results.

Dr. E. Fletcher Ingals. Mr. President: I have had considerable experience with some of these methods but none with curetting. My experience with sub-mucous injections of lactic acid has not been at all satisfactory in the cases where I have used it, the patients have suffered a great deal and have usually been worse afterward, so I have abandoned its use. I think that benefit may often be derived from rubbing in lactic acid where the surface can be reached. As to the other remedies spoken of, I like iodol better than iodoform; I have never seen any benefit from menthol, though some like it very well. I apprehend that it makes little difference what the remedy is if it is used strong enough to produce a certain amount of stimulation. One mixture which I have used in the treatment of advanced stages of tubercular laryngitis, with a good deal of satisfaction, consists of a mixture of morphia, tannic acid and carbolic acid, about 4 to 5 grains of morphia and thirty grains each of carbolic and tannic acid with four drachms each of glycerine and water. It seems to me the combination of glycerine with tannic acid aids much in maintaining the anæsthesia produced by the carbolic acid. I have applied this mixture to a large ulcer in the larynx where the person had been unable to swallow without extreme pain for days and weeks, and directly after the application the patient has been able to eat three or four meals without any trouble. Usually I do not expect the anæsthesia to last longer than 10 or 12 hours but it sometimes lasts 24, and in exceptional cases 36 hours. I think that I fully agree with the author in reference to the use of cocaine in the larynx. I understood him to state that it was often dangerous and I certainly cannot favor using the large quantities that are recommended by some writers. The application of cocaine in powder or solution for the purpose of relieving pain, excepting for the immediate pain to be caused by operation, has been very unsatisfactory to me. The relief obtained by cocaine is so short that a quantity sufficient to give the patient relief for an hour or two would be very prejudicial.

Dr. W. E. Casselbery. Mr. President: I am very glad indeed to have heard this excellent paper, as in my estimation surgical intervention in cases of tuberculosis of the larynx marks an epoch in laryngoligy. When Heryng, of Warsaw, and about the same time Krause of Berlin, first published the details of their method together with the results, I think most laryngologists were skeptical on the subject; they had in mind chiefly the asthenic cases of tuberculosis of the larynx, those in which the local lesion accompanies advanced pulmonary tuberculosis and it seemed cruel, unnecessary often, to subject these patients to surgical procedures.

But there are other cases in which the laryngeal lesion is the most pronounced manifestation of the disease; doubtless in most of these the lungs are involved, but the disease in the lungs is running a slow course, the infiltration being perhaps limited, and consequently there is little deterioration of the general health. In this connection I have designated these in my teaching on the subject as *asthenic cases*, in contradistinction to those which are asthenic or much debilitated. The term "surgical" applies to that form of treatment in which we employ instrumental procedures—by the curette, cutting forceps, punch, galvano-cautery, or other means of dislodging the exudative and proliferative material in order to bring any caustic agent, *e. g.* lactic acid, subsequently applied, into immediate contact with the tuberculous and infiltrated tissues. The mere swabbing of the larynx with a mild escharotic agent such as lactic

* Loc. cit., p. 171.
† Ueber Tracheotomie bei Kehlkopfschwindsucht, Berlin, 1886.
‡ *British Med. Journal*, Sept. 13, 1890.
§ *Revue Medicale de la Suisse Romande* ref. Journal of the Respiratory Organs, April, 1890

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acid without previous scraping or cutting, is held to be included among the various forms of medical treatment. Tuberculous laryngitis complicating an otherwise favorable form of pulmonary tuberculosis will usually become directly responsible for a rapid fatal termination through the occurrence of dysphagia or dyspnœa. Excited by the tubercular deposit the epithelial elements proliferate and form villous or cocks comb like masses attached to the inter-arytenoid fold, vocal cords, and ventricular bands, growths which can easily be compounded with simple multiple papillomata of the larynx and which if left untreated can multiply to the extent of causing a gradual mechanical asphyxia. Again, the tuberculous ulcers, by rendering swallowing painful may so limit the ability of the patient to take nourishment as to lead to speedy dissolution. It is therefore to relieve these conditions to which may be added also, aphonia, or in earlier stages to prevent the occurrence of such grave complications that a local cure should be promoted by surgical intervention in suitably sthenic cases.

When there is not much proliferative material and the ulcer can be directly attacked by a stimulating or escharotic agent, lactic acid alone in solution up to 90 per cent may be used, or the menthol, which in my hands, however, has not given good results. Concerning the palliative treatment for advanced cases, the application of morphine with or without tannic acid, carbolic acid, and glycerine solution or the use, for temporary effects, of cocaine sometimes alleviates the dysphagia and permits the patient to take a meal and thus promotes the proper nourishment. I consider it justifiable to spray the larynx with a weak solution of cocaine immediately preceeding the meal. The spray can be made to penetrate the larnx if the head is held backward and the tongue outward to a sufficient extent to ameliorate the condition temporarily. Apart from this and operative purposes, the use of cocaine is to be deprecated.

Dr. G. W. Webster. Mr. President:—I have nothing to say except in regard to the amount of cocaine that may be taken without causing death. I have a patient who told me that he took six drachms of cocaine in 4 per cent solution at one dose and he is still alive. He is a reputable physician of this city and his wife corroborated the story.

Dr. Homer M. Thomas. Mr. President: I have listened to the paper on laryngeal tuberculosis, by Dr. Hardie, with much interest. In regard to the treatment of laryngeal tuberculosis I consider the palliative quite as essential as the surgical. Many of the cases that consult those in the profession who pay rather especial attention to this and other allied affections, are already in the advanced stages, and hence in a condition where operative procedures are not warranted, and certainly would not be curative. It is therefore necessary to direct our efforts toward affording temporary relief from much of the excruciating pain which accompanies the last stages. A five to twenty per cent oily solution of menthol may be applied to the affected parts. The solution is sprayed into the larynx, at first once or twice daily, then less often, menthol in proportion of 1 to 3300, inhibits life in anthrax bacilli, and presumably in tubercle bacilli. It is on the ground of its anæsthetic and antiseptic properties that the agent is used. The use of a twenty to forty per cent solution of lactic acid n laryngeal tuberculosis has produced excellent results. But in some very sensitive patients the application is too irritating and provokes great pain, coughing and feelings of suffocation.

I now employ the lactic acid in persons of strong build and lymphatic temperament; the menthol in those of a weak and irritable constitution. The larynx can be disinfected and medicated by a vaporized solution containing sol. lugol twenty per cent, sol. acid carbolic one per cent, and ext. hamamelis, of each one ounce. This should be placed in a suitably vaporizing inhaler, preferably Semples, and a deep, full, inspiratory effort made. The medicament is carried into the larynx and there comes in direct contact with the tubercles.

A combination of morphia sulph. grs, four, acid carbolic, grs. thirty, acid tannic, grs. 30, glycerine one drachm, and a sufficient quantity of water to make one ounce, when applied locally to pharyngeal tuberculosis is useful. I have often been able to control pain for a number of hours by using this locally. It will frequently so soothe the throat that patients can take nourishment in comparative comfort.

Dr. T. M. Hardie, in closing the discussion, said: Mr. President, I am very glad that the paper has elicited the discussion to which we have just listened. There is just one point about the use of surgical treatment in laryngeal tuberculosis to which I should like to refer again. I think it is in itself our most important palliative measure, and it is employed not so much to cure laryngeal tuberculosis, although this result is frequently secured, as to relieve the terrible symptoms of pain and difficulty in breathing, and aphonia, which the disease occasions.

Dangers of Chewing Gum.—An interesting interview took place recently between a Philadelphia optician and an editor on the Philadelphia *Record* in regard to the injuriousness of the gum-chewing habit. He said: "I would advise the girls to stop it at once, 'swear off,' as the drinkers say, for in one respect these dainty girls are like drunkards. If they are chronic gum chewers, they are heir to all the infirmities that afflict the chronic whiskey drinkers. The greatest injury is caused to the eyes. The muscles of the jaws connect with the spine, and from the spine there are fibrous tissues running in all directions; a number of these extending to the eyes are called optic nerves. These nerves are very sensitive, and when overworked, become shrunken and feebled, and the process of deterioration to the eyesight begins. The vision soon becomes impaired and eye-glasses must be resorted to."

A singular case of blood poisoning is reported from Nyack, N. Y. Ambrose Cells, a young man well known there, lost a favorite chicken, and being anxious to know the cause of the fowl's death he proceeded to dissect it. While cutting the chicken his knife slipped and wounded the hand of his wife, who was assisting him. The woman's hand soon began swelling, as did also her entire arm and face, and soon she was in a terrible condition. Medical aid was called, and Mrs. Cells is now considered out of danger.—*Ex.*

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THE EDITOR would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information should be accompanied by the full name and address of the writer, although not necessarily to be published. All communications should be addressed to

WESTERN MEDICAL REPORTER, 163 State Street, Chicago.

Southern Surgical and Gynecological Association.

Third Annual meeting, Held in Atlanta, Georgia, November 11, 12, and 13, 1890.

FIRST DAY—MORNING SESSION.

The Association convened in Concordia Hall, and was called to order by the President, Dr. George J. Engelmann, of St. Louis, Missouri, at 9:30 a. m.

Mayor Glenn delivered an address of welcome, the response to which was made by Dr. R. B. Maury, of Memphis, Tenn.

Dr. R. B. Maury, of Memphis, then contributed a paper entitled: "How Shall we Treat Our Cases of Pelvic Inflammation?"

The paper gave a comprehensive resumé of the pathology of chronic pelvic inflammation as it has been clearly demonstrated by Bernutz, by Polk, Coe and others, and by the results of abdominal section. This pathology is that of pelvic peritonitis dependent upon tubal disease—not cellulitis. The author declared the term chronic cellulitis a misnomer—a pathological condition which existed only in the imagination of the physician, a term which had been productive of pernicious results in practice and which should no longer be used in connection with non-obstetric pelvic inflammation.

When the pathology rests upon such positive and abundant evidence, the question might be asked, why re-open a discussion upon it now: Because it is evident from our society proceedings and hospital reports that great confusion exists in the medical mind to-day in regard to it. Dr. Byrnes' case discussed in the New York Obstetrical Society during the present year was taken as an illustration. In speaking of such cases the great tendency to relapses in chronic pelvic inflammation was illustrated by two cases in which pus tubes were found five and seven years after attacks of peritonitis, and when it was supposed the patients were entirely restored to health. Upon the subject of treatment the writer admitted that by non-surgical therapeutic measures large intra-peritoneal exudations are often absorbed, and even some tubal and ovarian inflammation entirely disappear and recovery seems complete. But this is the exception and by no means the rule. For the radical cure of chronic pelvic inflammation non-surgical treatment fails in a majority of the cases. A great many women suffering to a moderate degree, continue to do so in spite of the best directed non-surgical measures, and perhaps wisely elect not to undergo operation.

As a rule, the only radical and permanent relief is afforded by removal of the diseased appendages. The treatment of pus collections of course requires abdominal section.

Dr. Joseph Price, of Philadelphia, followed with a paper on The Motive and Method of Pelvic Surgery. (See page 549.)

FIRST DAY—AFTERNOON SESSION.

Dr. W. H. H. Cobb, of Goldsborough, N. C., read a paper on Supra-Pubic Cystotomy in a Case of Enlarged Prostate.

The patient, a farmer, married, aged 49 years, rheumatic diathesis, dated his troubles back to 1881. While attending to the duties of Register of Deeds, he carelessly allowed overdistension of his bladder, and had suffered more or less since that time. In 1888 he had an attack of nephritic colic and passed a small calculus, similar in size and shape to a grain of wheat. On three different occasions he passed dark, gritty deposits. In 1883 he suffered much inconvenience and some pains in urinating. In 1887 he passed a dark, gristly. bloody substance about the size or a corn-pea, accompanied by much pain and bloody urine. For the past three years he has suffered much with cystitis in a very aggravated form, with great pain and difficulty in defecation, urine containing much blood, pus and mucus. The patient's efforts to relieve his bladder and bowels were tormenting, and night after night was spent in walking over his premises with groanings so severe as to disturb his neighbors. The patient consulted Dr. Cobb, June 15th last, and from the history of the case he suspected vesical calculus, but failed upon examination with sound to detect any stone. A digital examination, however, per rectum, disclosed the right lobe of prostate greatly enlarged, rough, indurated, exceedingly tender and sensitive. After consultation by letter with Hunter McGuire, he decided upon supra-pubic cystotomy as the only hope of permanent relief, which was done after the method of Dr. McGuire on June 23rd. At the expiration of two months (August 23d,) he found the prostate perfectly normal with no symtoms of cystitis and withdrew the plug, allowing the fistula to unite, which it did in about ten days. His patient performs the act of urination and defecation without the slightest trouble, and expresses himself as entirely relieved, and is at present following his usual vocation.

Inflammation in and About the Head of the Colon.—Dr. L. S. McMurty, of Louisville, read a paper on this subject. He said the teachings to be found in systematic treatises on surgery and practical medicine upon inflammation and its results in and about the caput coli are not only worthless, but positively misleading. This is true not only to pathology and treatment, but even as to the anatomy and relations of the cæcum and its appendix.

It is a well-known fact that inflammatory changes in the vermiform appendix are in almost every case the origin and seat of the inflammatory diseases about the caput coli. Inflammation of the cæcum is very rare, yet the testimony of surgeons and pathologists is abundant that in a certain proportion of cases cæcitis, with perforation, occurs without involvement of the appendix. Regnier in 1886 operated in a case presenting symptoms of intestinal obstruction with peritonitis, doing an abdominal section. At the autopsy cæcitis with perforation was discovered. In 1888, the speaker operated in case of perforative cæcitis and sutured two perforations in the cæcum. His patient recovered and was present in the surgical sections of the American Medical Association in May of that year.

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